Academic

Calendar

2021

Updated November 30, 2022

cna
College of the North Atlantic

TABLE OF CONTENTS

PRESIDENT'S MESSAGE

Welcome to College of the North Atlantic (CNA)!

You've taken a very important first step by connecting with us today! It means you are ready to choose a path for yourself; one that lays the foundation for a successful future no matter where you are or where you're going! Congratulations for choosing CNA!

The year 2020 brought with it many opportunities to think and do things vastly different than anyone could have ever imagined. And that's what CNA will teach you, as we continue to provide the best post-secondary education experience possible – both online and in-person. Thousands of students, just like you, are eager to learn, develop their talents, and explore new concepts. You will soon realize that with creativity, innovative thinking and a willingness to put in the hard work, a rewarding career is at your fingertips.

At CNA, we have a team of faculty and staff – leaders – who are ready to work with you to develop skills and knowledge in a diverse and inclusive environment throughout Newfoundland and Labrador. We value the opportunity to connect you with our many private and public partners in industry and our communities so that you are able to gain the relevant and current expertise to establish your place in our continuously-evolving workforce.

Whichever post-secondary program you choose at CNA, be assured that it will be the beginning of an exciting journey towards success!

We look forward to helping you get there.

Elizabeth Kidd
CNA President and CEO

ABOUT THE COLLEGE

College of the North Atlantic (CNA) is Newfoundland and Labrador's public college, with a rich history dating back more than 55 years. One of the largest post-secondary educational and skills training institutions in Atlantic Canada, CNA operates 17 campuses across the province and offers more than 100 full-time diploma, advanced diploma and certificate programs in:
• Academics, Applied Arts and Tourism
• Business and Information Technology
• Engineering Technology
• Health Sciences
• Industrial Trades and Natural Resources

CNA also delivers more than 250 online courses and 13 programs through its award-winning distributed learning service. Exploring beyond traditional approaches to education and training, the College serves individuals of all ages and interests, offering responsive, asynchronous learning platforms and individualized, custom-designed contract training programs

With a commitment to accessibility, diversity and life-long learning, CNA offers exciting experiential learning opportunities through cross-cultural exchanges, community development and applied research projects. Each year, approximately 2,500 students graduate and pursue rewarding, creative careers doing what they were trained to do.

Enacted by the House of Assembly, through the College Act, 1996, CNA is headquartered in Stephenville on the island's west coast.

IMPORTANT NOTICE

This calendar is intended to assist readers in understanding the academic and administrative structure, policies and procedures of College of the North Atlantic ("the College") and to provide information about current course offerings at the College.

Various academic and administrative departments have developed the material contained in this publication. All general information and course references have been checked for accuracy, but some inconsistencies or errors may remain. If you become aware of any, please bring these to the attention of the College Registrar. The College reserves the right to make changes to the information contained in this publication without prior notice.

Students are responsible for familiarizing themselves with the specific information, rules and regulations of the College, as well as the specific requirements of each diploma, certificate or other recognition sought. While advice and counseling are available, it is the responsibility of each student to ensure that the courses selected at registration are appropriate to the requirements of the student's chosen program.

If there is any inconsistency between the general academic regulations and policies as published in this Calendar, and the regulations and policies established by resolution of the Board of Governors or the College's administration, the version established by the Board of Governors or the College's administration will prevail.

By the act of registration each student agrees to be bound by the policies and regulations of College of the North Atlantic.

College of the North Atlantic disclaims all responsibility and liability for loss or damage suffered or incurred by any student or other party as a result of errors in, interruptions to, or delays or termination of its services, courses, classes or operations, which are caused by events beyond the reasonable control of the College, including force majeure, fire, flood, riot, war, strike, lock-out, damage to College property, financial exigency, computer failure or the incompatibility of college computing systems with other systems.

ACCESS TO INFORMATION AND PROTECTION OF PRIVACY (ATIPP) ACT

College of the North Atlantic is committed to the protection of privacy and confidentiality of our students. The College collects, uses, and discloses your personal information in accordance with the *Access to Information and Protection of Privacy Act, 2015 (ATIPP)* and under the authority of the *College Act, 1996.*

Personal Information
Personal information means any identifiable information about you including your name, an identifying number such as your social insurance number or driver's license number, your birth date, your contact information, or your credit card information.

Collection
College of the North Atlantic collects your personal information for the purposes of facilitating admission, registration, academic progression, graduation, alumni relations, student services, and other activities related to our programs and courses. The types of personal information we may collect from you includes:
- Contact information (e.g. name, address, e-mail address, telephone number).
- Demographic information (e.g. age, gender, industry, occupation).
- Registration and enrolment information (e.g. educational records, transcripts).
- Proof of identity information (e.g. signature, driver's licence number).
- Financial information (e.g. credit card number and expiration date, social insurance number).
- Health information (e.g. MCP card number, health insurance).

Use
College of the North Atlantic uses your personal information to deliver our programs and courses and provide services to you. This includes, but is not limited to:
- Assessing an applicant's suitability for enrolment in our programs and courses.
- Administering academic awards, scholarships, and financial aid.
- Delivering programs and courses.
- Recording academic progress and achievement.
- Providing access to our student services such as Counselling and Personal Development Services, Career Employment Services, Accessibility Services, Residence Services, and Library Services.
- Maintaining student records.
- Maintaining tuition accounts.
- Collecting payments.
- Issuing tax receipts.
- Administering alumni and development operations.
- Performing program evaluation or statistical and institutional research.
- Communicating with students regarding college business.

Disclosure
College of the North Atlantic collects only as much of your personal information as is necessary to achieve the purposes for which it was collected, for uses consistent with that purpose, or where authorized by the *ATIPP Act* or another federal or provincial Act. For example, the College may disclose your personal information to the following bodies to facilitate admissions, registration, academic progression, graduation, alumni relations, student services and other activities related to our programs and courses:
- College employees and third parties contracted by the College who need the information in the performance of their assigned duties or services.
- Student associations who need the information for administering their services.
- Federal and provincial government agencies who need the information for funding, statistical analysis, and planning purposes.

Contact
If you have any questions about the College's collection, use, and disclosure of your personal information, please consult http://www.cna.nl.ca/About/Your-Privacy.aspx or contact the college's Access and Privacy Coordinator for more information:
Access and Privacy Coordinator
College of the North Atlantic – Headquarters
432 Massachusetts Drive, P.O. Box 5400
Stephenville, NL Canada
A2N 2Z6
T: (709) 643-7912
F: (709) 643-7952
E: atipp@cna.nl.ca

PROGRAMS BY CAMPUS

Baie Verte Campus
Business Administration
- Certificate (*online*)

Office Administration
- Certificate (*online*)

Personal Care Attendant (PCA)

Bay St. George Campus
Advanced Care Paramedicine
Automotive Service Technician
Baking & Pastry Arts
Business Administration
- Accounting (*online*)
- Human Resource Management (*online*)

Commercial Driver
Community Leadership Development
Comprehensive Arts & Science (CAS)
- Transition

Cook
Digital Animation
Digital Filmmaking
Executive Office Management (*online*)
Hairstylist
Heavy Duty Equipment Technician/ Truck and Transport Mechanic
Heavy Equipment Operator
Mobile Crane Operator
Practical Nursing (*Final semester*)
Primary Care Paramedicine
Small Equipment Service Technician

Bonavista Campus
Business Administration
- Certificate (*online*)

Cultural Culinary Arts & Tourism
Heavy Equipment Operator
- Dual Site-Bay St. George (9 wks)

Plumber

Burin Campus
Business Administration
- Certificate (*online*)

Comprehensive Arts & Science (CAS)
- Transfer: College-University

Construction/Industrial Electrician
Cook
Engineering Technology (First Year)
Executive Office Management (*online*)
Practical Nursing (*Final semester*)
Sheet Metal Worker
Welder
Welding Engineering Technician

Carbonear Campus
Business Administration
- Accounting (*online*)
- Human Resource Management (*online*)

Carpenter
Community Leadership Development (*Year 2*)
Comprehensive Arts & Science (CAS)
- Transfer: College-University
- Transition

Construction/Industrial Electrician
Engineering Technology (First Year)
Personal Care Attendant (PCA)
Practical Nursing

Clarenville Campus
Business Administration
- Accounting (*online*)
- Human Resource Management (*online*)

Carpenter
Comprehensive Arts & Science (CAS)
- Transition (*Blended delivery*)

Executive Office Management (*online*)
Personal Care Attendant (PCA)
Practical Nursing
Steamfitter/Pipefitter

Corner Brook Campus
Agriculture Technician Co-op
Business Administration
- Accounting

Civil Engineering Technology Co-op
Comprehensive Arts & Science (CAS)
- Transition

Computer Systems and Networking
Construction/Industrial Electrician
Early Childhood Education
Electronic Systems Engineering Technology (Co-op)
Engineering Technology (First Year)
Environmental Engineering Technology (Advanced Diploma)
Environmental Engineering Technology (Co-op)
Executive Office Management
Fish and Wildlife Technician
Forest Resources Technician
Geographic Information Systems (GIS) Applications Specialist (Post Diploma)
Industrial Mechanic (Millwright)
Personal Care Attendant (PCA)
Power Engineering Technology
Practical Nursing
Software Development Co-op
Welder

Gander Campus
Aircraft Maintenance Engineering Technician
Aircraft Maintenance Engineering Technician Adv Diploma (EASA)
Aircraft Structural Repair Technician
Automotive Service Technician
Comprehensive Arts & Science (CAS)
- Transition (*Blended delivery*)

Engineering Technology (First Year)
Hairstylist
Instrumentation and Control Technician
Practical Nursing (*Final semester*)

Grand Falls-Windsor Campus
Business Management
- Accounting
- Human Resource Management

Community Leadership Development (*Year 2*)
Comprehensive Arts & Science (CAS)
- Transfer: College-University
- Transition

Executive Office Management
Medical Laboratory Assistant
Personal Care Attendant (PCA)
Practical Nursing
Renovation Technician

Happy Valley-Goose Bay Campus
Aboriginal Bridging
Comprehensive Arts & Science (CAS)
- Transfer: College-University
- Transition (*Blended delivery*)

Construction/Industrial Electrician
Heavy Duty Equipment Technician/ Truck and Transport Mechanic
Personal Care Attendant (PCA)
Powerline Technician (Operating)
Practical Nursing
Welder

Labrador West Campus
Comprehensive Arts & Science (CAS)
- Transfer: College-University
- Transition (*Blended delivery*)

Construction/Industrial Electrician
Executive Office Management (*online*)
Industrial Mechanic (Millwright)
Welder

Placentia Campus
Heavy Duty Equipment Technician/ Truck and Transport Mechanic
Heavy Equipment Operator
Industrial Mechanic (Millwright)
Machinist
- Dual Site-Prince Philip Drive

Port aux Basques Campus
Business Administration
- General (*online*)

Cabinetmaker
Executive Office Management (*online*)
Non-Destructive Testing Technician
Welder/Metal Fabricator (Fitter)

Prince Philip Drive Campus
Accelerated Software Development
Advanced Care Paramedicine
Applied Music
Art & Design Essentials
Auto Body and Collision Technician
Automotive Service Technician
Business Management
- Accounting
- Human Resource Management
- Marketing

Community Recreation Leadership
Comprehensive Arts &Science (CAS)
- Transition

Computer Systems and Networking
Cook
Diagnostic Ultrasonography (Post Diploma)
Early Childhood Education
Executive Office Management
Graphic Communications (Year 2)
Graphic Design
Journalism
Medical Laboratory Technology
Medical Office Management
Medical Radiography
Music: Performance, Business & Technology (Year 2)
Office Administration
- Legal
- Medical (Year 2)
- Records & Information Management (Year 2)

Personal Care Attendant (PCA)
Primary Care Paramedicine
Programmer Analyst (Business) Co-op (Year 3)
Records & Information Management
Respiratory Therapy
Software Development Co-op
Sound Recording & Production
Textile & Apparel Design
Tourism & Hospitality (Year 2)
Welder
X-Ray Skills for Medical Laboratory Technologists (Post Diploma)

Ridge Road Campus
Architectural Engineering Technology
Chemical Process Engineering Technology Co-op
Civil Engineering Technology Co-op
Computing Systems Engineering Technology Co-op
Electrical Engineering Technology (Power & Controls) Co-op
Electronics Engineering Technology (Biomedical)
Engineering Technology (First Year)
Geomatics/Surveying Engineering Technology Co-op
Industrial Engineering Technology Co-op
Instrumentation and Controls Engineering Technology
Mechanical Engineering Technology
Mechanical Engineering Technology
- Manufacturing Co-op

Petroleum Engineering Technology Co-op
Refrigeration & Air Conditioning Mechanic

Seal Cove Campus
Comprehensive Arts & Science (CAS)
- Transition

Construction/Industrial Electrician
Instrumentation and Control Technician
Powerline Technician (Operating)

St. Anthony Campus
Business Administration
- Certificate (*online*)

Executive Office Management (*online*)
Heavy Equipment Operator
- Dual Site-Bay St. George (9 wks)

Personal Care Attendant (PCA)
Powerline Technician (Operating)
Practical Nursing (*Final semester*)

Via Distributed Learning
Art & Design Essentials
Atlantic Trades Business Seal
Business Administration
- Accounting
- General
- Human Resource Management
- Marketing

Business Management
- Human Resource Management

Comprehensive Arts & Science (CAS)
- Transition

Early Childhood Education
Early Childhood Education Administrative Leadership (Adv. Diploma)
Enterprise Web Development
Executive Office Management
Information Management (Post Diploma)
Journalism (Post Diploma)
Medical Office Management
Office Administration
- Medical (Year 2)
- Records & Information Management (Year 2)

Records & Information Management
Rehabilitation Assistant (OTA & PTA)
Tourism & Hospitality Services
Video Game Art & Design
Web Development (Year 2)

HEADQUARTERS ADMINISTRATION LIST

President's Office
Elizabeth Kidd, President & CEO
Geoff Peters, General Counsel & Corporate Secretary

International
Elizabeth Vincent, Associate Vice-President – International

Human Resources
Deidre Dunne, Associate Vice-President – Human Resources

Public Relations
Heidi Staeben-Simmons, Associate Vice-President – Public Affairs
Morgan Pond, Director – Policy & Planning

Corporate Services
Annette Morey, Vice President – Finance & Administration
David Chow, Director – Information Technology
Rosalind Strickland, Director – Employment Services
TBD, Director – Quality Assurance & Risk
Kelly Hanlon, Director – Finance

Academics
Jason Rolls, Vice President – Academic (Interim)
Fergus O'Brien, Associate Vice President – Campus Operations
Theresa Pittman, Associate Vice President – Connected Learning
Amanda Skanes, Director – Academic Development (Interim)
Sonny Hegde, Dean – Engineering Technology
Brent Howell, Dean – Industrial Trades & Natural Resources
Irene O'Brien, Dean – Health Sciences
Brenda Tobin, Dean – Academics, Applied Arts & Tourism
Stephen Warren, Dean – Business & Information Technology
TBD, Registrar
Michelle O'Quinn, Associate Registrar – Registration/ Records
Donna Sheppard, Associate Registrar – Admissions

Student Services
Shirley Woodward, Associate Vice President – Student Services
Jeff Martin, Director – Student Experience
Lori Caines, Director – Student Services & Supports

Partnerships & Innovation
Trudy Barnes, Vice President – Partnerships & Innovation
Judy Dobson, Director – Customized & Continuous Learning
Michael Long, Associate Vice President – Applied Research
Sharon McLennon, Director – Workforce Innovation Centre
Wayne Quilty, Director – Partnership, Entrepreneurship & Community Engagement

CAMPUS ADMINISTRATION

Baie Verte Campus
Joan Pynn, Campus Director

Bay St. George Campus
Carol Ingram, Campus Director

Bonavista Campus
Jamie Best, Campus Manager

Burin Campus
Janice Moulton, Campus Director

Carbonear Campus
Terry Murphy, Campus Director

Clarenville Campus
Maisie Caines, Campus Director

Corner Brook Campus
Chad Simms, Senior Campus Director

Gander Campus
Jennifer Strickland, Campus Director
Jeff Weeks, Campus Director (Aviation)

Grand Falls –Windsor Campus
Joan Pynn, Campus Director

Happy Valley-Goose Bay Campus
Craig Baker, Senior Campus Director
Petar Krndija, Campus Director

Labrador West Campus
Karen Pottle-Fewer, Campus Director

Placentia Campus
Victoria Hodder, Campus Manager

Port aux Basques Campus
Jan Peddle, Campus Manager

Prince Philip Drive Campus
Lisa Downey, Campus Director
Ranjan Patro, Campus Director
Davida Smith, Senior Campus Director

Ridge Road Campus
Trudy O'Neill, Senior Campus Director

Seal Cove Campus
Ed Christopher, Campus Director

St. Anthony Campus
Vadney Tucker, Campus Manager

CAMPUS DIRECTORY

Baie Verte Campus
1 Terra Nova Road
Baie Verte, NL A0K 1B0
tel: (709) 532-8066
fax: (709) 532-4624

Bay St. George Campus
DSB Fowlow Building
432 Massachusetts Drive
P. O. Box 5400
Stephenville, NL A2N 2Z6
tel: (709) 643-7838
fax: (709) 643-7734

Bonavista Campus
301 Confederation Drive
P. O. Box 670
Bonavista, NL A0C 1B0
tel: (709) 468-1700
fax: (709) 468-2004

Burin Campus
105 Main Street
P. O. Box 370
Burin Bay Arm, NL A0E 1G0
tel: (709) 891-5601
fax: (709) 891-2256

Carbonear Campus
4 Pike's Lane
Carbonear, NL A1Y 1A7
tel: (709) 596-6139
fax: (709) 596-2688

Clarenville Campus
69 Pleasant Street
Clarenville, NL A5A 1V9
tel: (709) 466-6900
fax: (709) 466-2771

Corner Brook Campus
141 O'Connell Drive
P. O. Box 822
Corner Brook, NL A2H 6H6
tel: (709) 637-8530
fax: (709) 634-2126

Gander Campus
1 Magee Road
P. O. Box 395
Gander, NL A1V 1W8
tel: (709) 651-4800
fax: (709) 651-4854

Grand Falls-Windsor Campus
5 Cromer Avenue
Grand Falls-Windsor, NL A2A 1X3
tel: (709) 292-5600
fax: (709) 489-4180

Happy Valley-Goose Bay Campus
219 Hamilton River Road
P. O. Box 1720, Station "B"
Happy Valley-Goose Bay, NL A0P 1E0
tel: (709) 896-6300
fax: (709) 896-3733

Labrador West Campus
1600 Nichols-Adam Highway
Labrador City, NL A2V 0B8
tel: (709) 944-5787
fax: (709) 944-5413

Placentia Campus
1 Roosevelt Avenue
P. O. Box 190
Placentia, NL A0B 2Y0
tel: (709) 227-2037
fax: (709) 227-7185

Port aux Basques Campus
59 Grand Bay Road
P. O. Box 760
Port aux Basques, NL A0M 1C0
tel: (709) 695-3582
fax: (709) 695-2963

Prince Philip Drive
1 Prince Philip Drive
P. O. Box 1693
St. John's, NL A1C 5P7
tel: (709) 758-7284
fax: (709) 758-7304

Ridge Road Campus
153 Ridge Road
P. O. Box 1150
St. John's, NL A1C 6L8
tel: (709) 758-7000
fax: (709) 758-7126

Seal Cove Campus
1670 Conception Bay Highway
P. O. Box 19003, Station Seal Cove
Conception Bay South, NL A1X 5C7
tel: (709) 744-2047
fax: (709) 744-3929

St. Anthony Campus
83-93 East Street
P. O. Box 550
St. Anthony, NL A0K 4S0
tel: (709) 454-3559
fax: (709) 454-8808

Distributed Learning Services
69 Pleasant Street
Clarenville, NL A5A 1V9
tel: (709) 466-6961/1-877-465-2250
fax: (709) 466-4640

Program Enquiry College-Wide
toll free: 1-888-982-2268
www.cna.nl.ca
info@cna.nl.ca

ACADEMIC CALENDAR 2021-2022

July 26 - August 6 (Monday-Friday)
On-Line Registration for Fall Semester

September 6 (Monday)
College CLOSED - Labor Day

September 7 (Tuesday)
Fall Semester Begins – Welcome Back Campus Orientation

September 8 (Wednesday)
First Day of Course Instruction – Fall Semester

September 14 (Tuesday)
Deadline for submission of Credit Transfer/Exemption/PLAR requests – Fall Semester

September 21 (Tuesday)
Last day to add courses - Fall Semester

October 5 (Tuesday)
Fees Due - Fall Semester
Last day to opt out of Health & Dental - Fall Semester

October 11 (Monday)
College CLOSED - Thanksgiving Day

November 2 (Tuesday)
Last day to drop courses without academic prejudice - Fall Semester

November 11 (Thursday)
College CLOSED - Remembrance Day

November 12 (Friday)
Semester Break – Fall Semester

November 22 – December 3 (Monday-Friday)
On-Line Registration for Winter Semester

December 10 (Friday)
Last Day of Classes for Fall Semester (for courses with final exams)

December 13 - 20 (Monday-Monday)
Exam Period for Fall Semester*

December 21 (Tuesday)
Exam Flex Day (Weather/Scheduling Conflicts)

December 22 (Wednesday)
Final Grade Submission by Instructors (9:00 am)
Last day of Fall Semester

December 23 (Thursday)
Final Grade Posting for Fall Semester (10:00 am)

December 23 - 31 (Thursday-Friday)
Christmas Break

The Examination Timetable for the CAS Transfer: College-University Program may vary from the above as it is aligned to the MUN Examination Schedule.

January 3 (Monday)
College CLOSED - New Year's Day

January 4 (Tuesday)
Winter Semester Begins – Welcome Back Campus Orientation

January 5 (Wednesday)
First Day of Course Instruction - Winter Semester

January 11 (Tuesday)
Deadline for submission of Credit Transfer/Exemption/PLAR requests – Winter Semester

January 18 (Tuesday)
Last day to add courses - Winter Semester

February 1 (Tuesday)
Fees Due - Winter Semester
Last day to opt out of Health & Dental, New Students - Winter Semester

February 3 & 4 (Thursday & Friday)
No Classes – Winter Break

March 1 (Monday)
Last day to drop course without academic prejudice – Winter Semester

March 7 – 11 (Monday-Friday)
Reading Break – Winter Semester

March 28 - April 8 (Monday-Friday)
On-Line Registration for Spring/Intersession

April 15 (Friday)
College CLOSED – Good Friday

April 18 (Monday)
Last Day of Classes for Winter Semester (for courses with final exams)

April 19 – 26 (Tuesday-Tuesday)
Exam Period for Winter Semester*

April 27 (Wednesday)
Exam Flex Day (Weather/Scheduling Conflicts)

April 28 (Thursday)
Final Grade Submission by Instructors (9:00 am)
Last day of Winter Semester

April 29 (Friday)
Final Grade Posting for Winter Semester (10:00 am)

The Examination Timetable for the CAS Transfer: College-University Program may vary from the above as it is aligned to the MUN Examination Schedule.

May 2 (Monday)
Intersession/Spring Semester Starts for Trades/Natural Resources programs

May 3 (Tuesday)
First Day of Course Instruction – Intersession/Spring Semester for Trades/Natural Resources programs

May 9 (Monday)
Intersession/Spring Semester Starts
Last day to add courses - Intersession for Trades/Natural Resources programs
Deadline for submission of Credit Transfer/Exemption/PLAR requests – Intersession/Spring for Trades/Natural Resources programs

May 10 (Tuesday)
First Day of Course Instruction – Intersession/Spring Semester

May 16 (Monday)
Deadline for submission of Credit Transfer/Exemption/PLAR requests – Intersession/Spring Semester
Fees Due - Intersession for Trades/Natural Resources programs
Last day to drop courses without academic prejudice – Intersession for Trades/Natural Resources programs
Last day to add courses - Intersession

May 20 (Friday)
Fees Due – Intersession
Last day to drop courses without academic prejudice – Intersession
Last day to opt out of Health & Dental, New Students – Intersession/Spring Semester
Last day to add courses - Spring Semester

May 23 (Monday)
College CLOSED- Victoria Day

June 6 (Monday)
Fees Due – Spring Semester

June 8 (Wednesday)
Last Day of Classes for Intersession (for courses with final exams) for Trades/Natural Resources programs

June 9-14 (Thursday-Tuesday)
Exam Period for Intersession for Trades/Natural Resources programs*

June 15 (Wednesday)
Last Day of Classes for Intersession (for courses with final exams)

June 16 (Thursday)
Final Grade Submission by Instructors (9:00 am) – Intersession for Trades/Natural Resources programs
Last Day for Intersession for Trades/Natural Resources programs

June 17 (Friday)
Final Grade Posting for Intersession for Trades/Natural Resources programs (10:00 am)

June 16-21 (Thursday-Tuesday)
Exam Period for Intersession

June 23 (Thursday)
Final Grade Submission by Instructors (9:00 am) – Intersession
Last Day for Intersession

June 24 (Friday)
Final Grade Posting for Intersession (10:00 am)

June 27 (Monday)
College CLOSED- June Day

July 1 (Friday)
College CLOSED - Memorial Day

July 4 (Monday)
Last day to drop courses without academic prejudice - Spring Semester

August 12 (Friday)
Last Day of Classes for Spring Semester (for courses with final exams)

August 15-19 (Monday-Friday)
Exam Period for Spring Semester

August 20 (Monday)
Exam Flex Day (Scheduling Conflicts)

August 24 (Wednesday)
Final Grade Submission by Instructors (9:00 am) - Spring Semester
Last day of Spring Semester

August 26 (Friday)
Final Grade Posting for Spring Semester (10:00 am)

*The Examination Timetable for the CAS Transfer: College-University Program may vary from the above as it is aligned to the MUN Examination Schedule.

** Some Industrial Trades programs may end sooner/later than the last day of classes for Intersession as Trades programs must follow the Plan of Training as set out by the Department of Immigration, Skills and Labour.

Please note the Academic Dates are subject to change.

REGISTRAR'S OFFICE

The Registrar's Office is responsible for the administration of academic policies and procedures and for an effective system of operations for admissions, registration, enrollment, transfer credit, grades processing, student awards, student fees, student loans, transcripts, graduation and certification. This office is also responsible for the provision of information regarding all College programs and courses.

ADMISSIONS REGULATIONS

As per Admission Policy AC-102, the College will admit applicants who fulfill the admission requirements for credit-based programs and trades entry programs based on available resources. All credit-based programs and trades entry programs will have defined admissions requirements, approved by Academic Council where appropriate.

The College will admit applicants based on either a "First Qualified, First Accepted" admissions process or a Competitive Entry admissions process. For programs with "First Qualified, First Accepted" admissions, the College will have standardized admissions processes to ensure consistency across campuses. For programs with Competitive Entry admissions, the College will have objective procedures that guide the admission process.

Irrespective of the above, the College reserves the right to develop admissions policies, procedures and requirements for designated groups. The College may reserve space for aboriginal, international, and out-of-province applicants in any of its regularly funded programs. The College reserves the right to develop policies and regulations in recognition of industry and government partner requirements and the College scholarship requirements.

Applications may be submitted at any time. Students currently in high school must be in their final year of high school at the time of application submission.

Entry into Full-Time Programs
Candidates applying for full-time status must satisfy the following requirements as per Admission Operational Procedure AC-102-PR:
1. Apply on-line or in writing on the approved application form and submit the non-refundable application processing fee.
2. Meet the educational and other requirements for entry into the particular program; minimum of high school graduation diploma or recognized equivalent, or as otherwise specified.
3. In the case of high school students, provide an official copy of high school transcript. In the case of ABE students, provide a Record of Achievement or other equivalent official transcript.
4. Official transcripts or degree certificates issued in languages other than English must be translated into English and submitted to College of the North Atlantic along with the original official document. An official translation is an exact English translation of the academic documents that has been prepared by the issuing institution or a professional translator.
5. Provide required documentation or report for an interview or for testing when requested.
6. Meet physical entrance requirements of the program, where applicable.
7. Irrespective of 1 & 2 above, applicants may apply for admission under Special Admissions or may be considered as a Mature Student (Refer to Mature Student Requirements).

Admission Requirements
Applicants must meet all identified admission requirements of the program (AC-102-PR 1.1).

International applicants are advised to refer to the International Students section of the calendar for additional information regarding application and admission regulations, language requirements, international student fees, and other regulations for international students.

1. High School Graduation
   High school graduation means the successful completion of required credit courses as specified by the Newfoundland and Labrador Department of Education & Early Childhood Development, or other equivalent Canadian jurisdiction.

   High School students who complete modified courses with the third digit "6" or alternate courses with a third digit "7" will require further assessment before eligibility is determined. The completion of a modified course may prevent the applicant from being accepted into regular College programs. Applications from such applicants will be referred to the Accessibility Services Coordinator. (Refer to Procedure SS-207-PR).
2. High School Equivalency
   Graduation with the following High School equivalencies will be considered for acceptance into any College program:
   a. Basic Training for Skill Development (BTSD) Level 4 Certificate
   b. Adult Basic Education Certificate (ABE) Level 3 (Level 4 prior to 1991)
   c. General Educational Development (GED) Certificate
   d. Grade XI Certificate (Department of Education, Public Exams prior to 1982)

Persons holding certificates as listed in a., b., or c. may require further evaluation before being accepted into a program; and upon being accepted, those applicants may be required to complete additional courses before entering the program.

3. Comprehensive Arts & Science (CAS) Transition
   To be accepted into regular College programs, CAS Transition students must meet the admission requirements of their chosen subsequent program as articulated under the relevant program section of the College Calendar.

4. Mature Student Requirements
   Applicants who do not meet the educational prerequisites for programs with "First Qualified, First Accepted" admissions process may be considered for Mature Student admission on an individual basis provided the following conditions are met:
   a. Applicants must be at least 19 years of age at the time of application and out of school for at least one (1) year.
   b. Applicants present an official transcript of grades for the highest educational level attained.
   c. Applicants must complete the standardized assessment instrument at a level approved by the College and attain the required scores for the program.

   Applicants seeking admission under the Mature Student process must still meet specific academic course prerequisites, in disciplines such as English, Math, Biology, Chemistry, and Physics, or any others specifically identified for admission.
   Mature student status does not apply to programs with Competitive Entry admissions process.

5. Special Admissions
   Special circumstances may exist whereby applicants who fail to meet all of the criteria for admission may be recommended for acceptance. In such cases, the application will be referred to the Committee on Special Admissions.

   The College may choose to designate groups comprised of individuals who face traditional barriers to post-secondary entry. In such cases, applicants who are high school students who do not meet the academic requirements (including having reached the legal school leaving age on the date of commencement of the program) must provide a letter of recommendation from the high school principal or guidance counsellor or any other special admission requirement as established by the College. In such cases, the College will establish a committee to review applications and ensure fairness through transparency in the admission process.

   Applicants with disabilities, who do not meet program admissions requirements, will undergo further review to determine eligibility for admission, as outlined in Procedure SS-207-PR.

   Applicants seeking admission under the Special Admissions process must still meet specific academic course prerequisites as detailed in program admission requirements in the College Calendar, in disciplines such as English, Math, Biology, Chemistry, and Physics, or any others specifically identified for admission.

6. Non Program Specific
   Students may enroll in up to two (2) General Studies courses per semester or one (1) course in Intersession, up to a total of eight (8) courses. The admission requirement for candidates wishing to apply for a credit course through General Studies is the course prerequisite, if applicable. Admission into General Studies is only available if entry into CAS Transition or another program is not an option as determined by the Registrar or designate. Registration/enrollment in a course does not constitute a commitment to or admission into any College program.

7. Home Schooling Admission Guidelines
   Home schooled applicants who do not possess a High School Graduation Diploma, as specified by the Department of Education & Early Childhood Development, will be reviewed for general admission by the College's Committee on Special Admissions. The applicant may be asked to provide some proof of standardized assessment results and/or complete a standardized assessment instrument used by the College and attain the required scores for the selected program.

Admissions Portfolio Guidelines
Per AC-102-PR, Section 1.2, some programs may require submission of a portfolio (as approved by the relevant School Dean and identified in the College Calendar). The guidelines will be outlined in the program details contained in the College Calendar, and shall include:
1. Required pieces of applicant's work and documentation.
2. Materials sought.
3. Appropriate format.
4. Whether original work is required.
5. Established evaluation criteria.
6. Return of materials procedures.
The College assumes no responsibility for loss of or damage to portfolios submitted.

Portfolio Screening:
Each program area will identify how portfolios will be screened, with criteria as approved by the School Dean responsible for the program.

Application Process

Further to AC-102-PR, 1.3, the following process will be followed.

1. Submit an application and pay the non-refundable application fee.
2. Forward required official documents (NOTE: certified copy of transcripts must be obtained from the high school or Department of Education; faxed copies directly from these institutions will be accepted). Applications are not complete until all required documentation is received. All required documents must be received within three (3) months of date of application or the application will be withdrawn, except for programs that have posted deadline dates in which instance documents must be submitted by the posted date.
3. Applicants enrolled in their final year of high school must provide a certified copy of their Level I & II transcript, and Level III courses they are registered for, at the time of application. Applicants who are accepted will be accepted conditionally pending receipt of final exam results. For provincial applicants presently in Level III of high school and who will be writing exams in June, the College will obtain a copy of the final high school marks directly from the Department of Education once final marks are available, provided the MCP number (Provincial Student number for graduates after 2020) was provided on the application.
4. Applicants will be sent an acknowledgement upon receipt of their application. Communications will be via e-mail. Some notifications may be sent via SMS text (where applicants have consented to this).
5. Programs with "First Qualified, First Accepted" admission process: Acceptance into these programs will follow the process as outlined in Procedure AC-119-PR, subject to the following:
   a. Applications must be correctly completed and must contain all required documentation.
   b. Complete applications will be dated as of the date of receipt of the last document received in order to assess program eligibility.
   c. Applicants must meet all educational and any other requirements;
   d. All required fees must be paid.
6. Admission to programs with a competitive entry admissions process will not be conducted on a "First Qualified, First Accepted" basis, but will be determined by a process in which applicants are ranked using the results of each admissions component to produce an overall candidate score. For more details, please refer to the specific program entry requirements in the College Calendar.
7. When accepted, applicants will be asked to confirm in writing (or electronically) their intent to register and will be required to pay a confirmation fee within two weeks of the date of the letter of acceptance.
8. When accepted within two weeks of a program start date, applicants will be asked to confirm in writing (or electronically) their intent to register and will be required to pay a confirmation fee within one week of the date of the letter of acceptance.
9. The confirmation fee is non-refundable and cannot be transferred to a different program.
10. If applicants fail to confirm acceptance within the time specified their application will be withdrawn they will be required to re-apply for admission.
11. Applicants can only register for one program. If an applicant confirms a seat in multiple programs, applicants must decide which program they will attend when registering online. Applications for the program(s) not registered for will be withdrawn.
12. Applicants who wish to transfer their application to another campus can do so using the Application Transfer: Campus to Campus form. The eligibility date (if applicable) will be as of the date of the transfer of the application.
13. Applicants who wish to transfer their application to another program can do so using the Application Transfer: Program to Program form, and must pay the appropriate application fee. The eligibility date (if applicable) will be as of the date of the transfer of the application.
14. First Year Engineering Technology: The College allows students to attend the first two semesters of an Engineering Technology program at select campuses, as noted on the College's website. After successful completion of the first two semesters, students then progress to Technical Intersession in the program (and campus) for which a seat was reserved. Individuals must submit their application to the campus where they intend to complete the first two semesters of their program. This begins a first-qualified, first-accepted provincial process that reserves a seat at the designated campus for the appropriate Technical Intersession, and subsequent years of program study.
    Students who, after registration, wish to change their program choice MUST apply using the Program Transfer process.

Re-Admission of Students

1. Academically Dismissed Students (AC-102-PR, 1.4)
   a. Applications from academically dismissed students will be received at any time but students will not be accepted to return on a full time basis in any program until the appropriate period from the date of dismissal has elapsed. Notwithstanding the above, and pending availability of space, students who have been academically dismissed will be permitted to register for one (1) course for credit in a certificate or diploma program (including the program a student is dismissed from) or two (2) courses in either of our bridging programs – Aboriginal Bridging or the Comprehensive Arts and Science (CAS) Transition program, providing the course prerequisites are met.
   b. Students who have been academically dismissed from a program on **two** or more occasions will not be eligible for re-admission to the College in any program for a period of two years from the date of dismissal.
   c. Students who are promotion denied (i.e. do not achieve a pass in all courses and a GPA of 2.0 or better) and are not able to continue with their program, must submit an application (and pay the applicable application fee) to return to the College to complete deficiencies. Re-admission will be considered pending seat availability.
   d. Students who are required to withdraw from the College under a. and b. above must apply for re-admission and pay the applicable application fee. Their names will be placed on the existing eligibility list as of the date of re-application.

2. Voluntary Withdrawal

Students who are in good standing and who voluntarily withdraw due to extenuating circumstances (confirmed by the counsellor or a campus director/manager) will be required to re-apply to return to the program. To be eligible for re-admission under this instance, the application for re-admission must be submitted within two (2) years of the date of leaving, with the exception of Health Sciences students who must re-apply within one year so as to align with the Awarding Diplomas and Certificates Procedure (AC-104-PR, Section 1.4). students who left for medical reasons must supply a medical note of clearance before re-admission is granted. These students will retain their original date of eligibility and will be admitted into the first available seat in accordance with Program Eligibility List and Program Waitlist procedures (AC-119-PR).

3. Involuntary Withdrawal

Students who are withdrawn/suspended by the College will be required to re-apply to return to the program. Subject to any conditions placed at time of withdrawal/suspension, eligibility will be from the date of re-application to the program. These students will be admitted in accordance with Program Eligibility List and Program Waitlist procedures (AC-119-PR).

Student Numbers

1. As per AC-102-PR, 1.5, student numbers will be assigned at the time of application.
2. Students will use the number assigned to them regardless of the number of times they apply to the College.
3. Student numbers must appear on all documents added to students' academic or financial files.
4. Once student numbers are assigned, they will not be reassigned.
5. If a student has been assigned multiple numbers, the student should contact Student Services. The College will determine which number will be used going forward.

Entry into Regular Programs: Part-Time Student Status

As per AC-102-PR, 2.0, a part-time student is a student who is enrolled in courses but who does not meet the program specific criteria of a full-time student. Students who apply for part-time status in any program must meet all the requirements outlined for full-time status. Some programs may not be able to accommodate part-time enrollment.

Entry into Regular Programs: Concurrent Studies Student Status

As per AC-102-PR, 3.0, students in or about to enter their final year of high school may be admitted into College level credit courses by the Committee on Special Admissions in accordance with the following:

1. Students must hold an academic record with a minimum overall high school average of 80% based on the marks for all courses completed in high school.
2. Students will be accepted on a "First Qualified, First Accepted" basis on the provision that space is available and that the program does not have competitive entry admission process.
3. All fees and deadlines for regularly admitted students will apply.
4. Students applying for admission under this policy will be required to submit:
   - A completed application form;
   - An official high school transcript;
   - A letter from the high school principal or guidance counsellor clearly recommending admission to "Concurrent Studies"; and
   - A letter from the applicant providing rationale to be considered for concurrent studies and requesting enrolment in a specific course.

Permanent Residents, Refugees and Other Canadian Status Students

If the applicant's first language is not English, the College reserves the right to test English proficiency or request official scores on internationally recognized tests of English language proficiency as per Section 5.2 - English Proficiency of the Admissions Procedure (AC-102-PR).

Official transcripts or degree certificates issued in languages other than English must be translated into English and submitted to College of the North Atlantic along with the original official documents. An official translation is an exact English translation of the academic documents that has been prepared by the issuing institution or a professional translator.

Eligibility Lists

Per Procedure AC-119-PR, a program eligibility list is a list of applicants meeting program admission requirements based on the date of completed applications.

1. Placement on Eligibility List

For programs with "First Qualified, First Accepted" admissions, applicants who meet admissions criteria will be placed on a program eligibility list by time stamp based on the date that the application is complete (i.e. date the last required piece of documentation of application package is received).

Comprehensive Arts and Science (CAS) Transition Subsequent Program applicants will be time stamped based on the date of receipt of the student's application to the program for which they are currently enrolled.

For Competitive Entry programs, candidates who meet admissions criteria will be placed on a program eligibility list by the rank determined by the competitive entry process. Unsuccessful applicants who are not offered a seat in a competitive entry program in a given academic year will not be maintained on a program eligibility list after the last day to add courses. Should applicants wish to be considered for the next program intake, they will be required to re-apply for the next available program start date.

2. Selection Process: "First Qualified, First Accepted" programs
   Applicants meeting admission criteria for programs with "First Qualified, First Accepted" admissions will be made an offer of admission in the order in which they are placed on program eligibility list (i.e. based on the date of completed application).

3. Program Entry: Programs with "First Qualified, First Accepted" Acceptance
   Qualified applicants are admitted from program eligibility lists and program wait lists as/if space becomes available. It is expected that applicants will be prepared to begin their program any time after the term for which they applied.

   Applicants who are made an offer of admission into a program BEFORE AND UP TO six (6) weeks prior to the scheduled program start date AND who decline their offer will be removed from the program eligibility list or program wait list and will be required to re-apply for admission.

   Applicants on program eligibility lists or program wait lists who are not offered a seat in an academic year will not be required to re-apply, but will have their applications rolled over with applicants retaining their original time stamp date of eligibility until a seat is offered.

4. Deferment of Acceptance
   Deferment rules for applicants offered seats with LESS THAN six (6) weeks' notice.

   Applicants who are notified of admittance into a program LESS THAN six (6) weeks prior to program start and who are unable to accept a seat may request a deferment for the next program in-take.
   Applicants who defer a seat with LESS THAN six (6) weeks prior to program start will retain current program eligibility/wait list placement.

5. Deferment rules for applicants offered seats in the same program at a different campus
   Applicants who are offered seats in the same program at a different campus and who are unable to accept a seat may request a deferment for the next program in-take.

   Applicants who defer a seat in the same program at a different campus will retain current program eligibility/wait list placement for their original program choice.

Program Wait Lists
Once available seats in a program are filled, remaining eligible applicants will be moved from the program eligibility list and placed on a program wait list by time stamp based on the date that the application was complete (i.e. date that last required piece of documentation of application package is received).

As seats become available, applicants on the program wait list will be offered seats in the order they are placed on the program wait list.

After the last day to add courses (or, in the case of out of sequence programs, two (2) weeks after the first day of classes), applicants on the wait list will be contacted and asked:

1. EITHER: if they wish to keep their application active for the next intake of the program. If applicants wish to keep their application active for the next intake of the program, they will be required to indicate in writing their request to be placed on the program eligibility list for the next available intake of program within a specified time period. Wait listed applicants who wish to remain on the list will be placed on the program eligibility list for the next available intake, and will retain their original application time stamp position.

2. OR: if they wish to withdraw their application. If applicants indicate they want their application withdrawn, or do not respond within the specified deadline, the application will be withdrawn and the applicant will be required to re-apply for admission.

ACADEMIC REGULATIONS

Definitions of Academic Terms
Below are the standard definitions for academic terms.

Academic Year
Academic year is the period from September 1 to August 31 consisting of three distinct 15-week semesters.

Access Programs
Developmental programs that students may enter prior to admission into regular certificate/diploma level programs.

Credit Course
An approved and recognized body of content, knowledge, skills assigned a credit value.

Credit
The weighted value of a course based on the depth and breadth of the learning objectives.

Diploma Program
An approved program of study consisting of a prescribed combination of courses that must address:
1. occupational skill development;
2. academic or general study;
3. self-interest or personal growth.

Diploma Programs will normally:
1. be prescribed over a minimum of a four-semester period;
2. be comprised of a minimum of 80 credits; and
3. consist of a maximum of seven courses per semester.

Advanced Diploma
An approved program of study consisting of in-depth training for graduates of a diploma program or equivalent.

Advanced Diploma Programs will normally:
1. be prescribed over a minimum of one semester;
2. be comprised of a minimum of 20 credits.

Post Diploma
A diploma issued upon successful completion of a minimum two-semester program that requires either graduation from a recognized two- or three-year post-secondary diploma or degree, or a combination of other post-secondary work and industry experience acceptable to the College as an entrance requirement.

Certificate Program
An approved program of study consisting of a prescribed combination of courses that must address:
1. occupational skill development;
2. academic or general study;
3. self-interest or personal growth.

Certificate Programs will normally:
1. be prescribed over a two-semester period;
2. be comprised of a minimum of 40 credits; and
3. consist of a maximum of seven courses per semester.

Certificates of Achievement and Certificates of Participation
(For further information on Customized and Continuous Learning Certificates, please refer to Policy No. AC-106 - 5.0 Programs Designated to be Awarded a Certificate of Continuous Learning, and also Procedure AC-120-PR, 1.0)

Certificate of Achievement
A Certificate of Achievement (Program/Course) is awarded upon successful completion of a Continuous Learning program or course for which learning is measured and evaluated.

Certificate of Participation
A Certificate of Participation (Program/Course) is awarded upon completion of any non-formalized Continuous Learning program or course which addresses one or more of the following areas of study: occupational skill development, academic study, general study, and personal interest/growth, and for which specific learning or performance is not measured or evaluated.

Workforce Development
The College may enter partnerships for the purpose of developing and/or delivering courses or programs. Such partnerships will be formally recognized on parchments in one of the following ways:
1. College Parchment - when a course or program is developed by the College, either in partnership with or on behalf of another institution, agency or industry; a College parchment will be issued. This parchment may contain the phrase "designed in partnership with…" as an additional description of the course/program.

2. Joint Parchment - when a course or program is developed and/or delivered in partnership with another educational institution, a joint certificate formally recognizing both institutions may be awarded. This parchment would recognize both institutions and may contain the signatures of duly authorized officers of both institutions.

Full-Time Student
A full-time student is one who is registered for a minimum of four courses or more in course-based programs and in the case of individual programs, a minimum of 18 hours per week.

Part-Time Student
A part-time student is one who is registered for less than four courses in course-based programs and in the case of individualized programs, less than 18 hours per week.

Semester
A 15-week period that includes class/learning time as well as administrative and evaluation time. The academic year is divided into three semesters, the dates of which will be determined on an annual basis.

Intersession I
A period up to eight (8) weeks that includes class/learning time as well as administrative and evaluation time–usually scheduled at the beginning of the Spring Semester.

Intersession II
Normally a period of five to eight (5-8) weeks that includes class/learning time as well as administrative and evaluation time–usually scheduled in the second half of the Spring Semester.

Mature Student
A person who does not meet the entrance requirements for admission into a full-time program, but who is at least 19 years of age at the time of submitting an application, and who has been out of school for at least one year.

Registration Procedures
All students will register online on the dates and at the times prescribed and publicized by the College. Registration for out of sequence programs will be scheduled at the start of the program, but students will be required to register online with all other students prior to each subsequent semester.

Late Registration
With permission, late registration may sometimes be acceptable up to two (2) weeks after the first day of classes.

Admission to Classes
Students will not be admitted to a class until they have satisfied the regulations regarding entrance and complied with the General College Regulations.

Course Load
The number of courses constituting a normal semester workload for a student is specified in the outline for each program as published in the College Calendar.

Extended Course Loads
Students who wish to register for extra courses must make application to the campus administration or designate.

Repeating Courses
With the permission of the campus administration or designate, students may repeat any course for which a passing grade of 5 or 10 marks above the stated pass mark has previously been awarded, conditional on space limitations and other considerations. The original passing grade will remain on the transcript and a second entry will be recorded with the new grade. The highest mark attained will be used in the calculation of the G.P.A.

Independent Studies
When required courses are not available in a particular semester, full-time students may make application to the campus administration or designate to register for such courses through independent study. The Independent Study Contract must be submitted to the campus admissions/student services office within one (1) week from the commencement of the semester.

Access to courses through independent study may be permitted when resources are available and with the permission of the campus administration or designate and the instructional coordinator (where applicable) in consultation with the faculty. Strategies to ensure adherence to course requirements may be documented in contract format to be signed by the student, the course instructor, campus administration or designate and the instructional coordinator (where applicable).

Change of Registration

Adding Courses

The last date for adding courses is two (2) weeks from the commencement of the semester (one [1] week from the commencement of intersession) in which that course begins. In extenuating circumstances, in the normal semester the two-week period may be extended. Students must complete the appropriate Change in Course Registration form. Changes must be approved by the campus administration or designate.

Dropping Courses

Courses may be dropped without academic prejudice up to the end of the eighth week from the scheduled first day of classes for a regular semester (or two [2] weeks after the scheduled start of classes in intersession). Courses dropped after the dates noted above are recorded as "Dropped/Fail" and will have a zero mark entered on the academic record for the course or courses dropped unless, in extenuating circumstances, the student has received the written permission of the campus administration or designate to drop a course without penalty. Students are required to complete the appropriate registration change form which must be approved by the instructors concerned and by the campus administration or designate.

Withdrawing from the College

Registered students who wish to withdraw from the College will be invited to discuss the situation with the appropriate student services official. The Withdrawal/Status Report form must be completed and signed by the instructor/counsellor and campus administration or designate. Withdrawals after the eighth week from the scheduled first day of classes for a regular semester (or two [2] weeks after the scheduled start of classes in intersession) will result in all courses that are not completed being marked as "Dropped/Fail" with students held in academic prejudice and/or liable for tuition and fees.

Program Transfer

Students wishing to change their program of studies or campus must apply for the transfer.

Program Transfer: Program to Program

1. Applications for program transfer are available from the campus admissions/student services office. Students must discuss their request with the counsellor and campus administration, receive written approval, and pay the application fee.
2. Program transfer may be granted if there is space available and the appropriate counselling processes have been followed.

Program Transfer: Campus to Campus

1. Students must discuss their request with the counsellor and campus administration and receive written approval.
2. Applications for campus transfer will be available from the campus admissions/student services office.
3. As certain programs are offered using different instructional methodology at the various campuses, transfer may be limited to the end of given semesters.
4. Campus admissions/student services staff will contact the campus administration at the receiving campus to determine space availability and appropriate transfer time frame.

Transfer Process for Engineering Technology - First Year

If a student wishes to change his/her original program choice, he/she MUST request a program transfer and complete the appropriate form (Request to Transfer Form) which is available through the campus admissions/student services office.

Applicants cannot request a change in program prior to entry into the first year. A request to transfer does not guarantee entry into one's alternate, "new" program choice. Program transfer will be granted only if sufficient space is available. The following conditions apply:

1. The Request to Transfer Form must be received at the campus admissions/student services office by the second Friday in February.
2. Transfers are granted based on (a) space availability and (b) the student's weighted average at the end of semester one. In cases where the student has been exempted from courses in the first semester, the mark(s) obtained by the student at another post-secondary institution or high school will be used in calculating the weighted average.

Advanced Standing

Students may receive advanced standing for up to 75% of the content of the program to which they have been admitted on the basis of successful completion of this content in the same or similar programs at another college and as assessed by the College. Students must initiate advanced standing requests within one (1) week of the semester start date.

Applicants who wish to be considered for advanced standing should submit an application with the following documents:
1. Proof of high school completion;
2. Official transcript(s);
3. Detailed calendar description of the courses claimed for credit.

Students seeking advanced standing will not be excused from any course until written authority has been received from the campus admissions/student services office.

Transfer of Credit Status

Credit Programs (other than Industrial Trades)

Transfer of credit status is awarded for any course completed at the Marine Institute or at any one of the former colleges provided that the course uses the same course description and course number. When Transfer of Credit is awarded, the College will accept the passing grade as awarded by the institution and this mark will be used in the calculation of the G.P.A. Students must initiate transfer of credit requests within one (1) week of the semester start date.

Industrial Trades Programs

Transfer of credit status is awarded for any course completed at any post-secondary institution that matches the course numbers in the Provincial Plan of Training as outlined by the Department of Advanced Education and Skills. Students must initiate transfer of credit requests within one (1) week of the semester start date.

Exemption Status

Credit Programs (other than Industrial Trades)

Exemption status is granted if the course has a minimum of 70% equivalency in the course material required. When exemption status is awarded, no mark is reported on the transcript and the G.P.A. is not affected. The College will consider exemptions for courses if the student received a passing grade. Students must initiate exemption status requests within one (1) week of the semester start date.

The College will accept any credit course from a recognized public post-secondary institution as an exemption for an elective even if that course is not offered at the College. For example, a course in Linguistics from MUN would be considered to have equivalent value to any other "elective" and, on request, could be granted exemption as a general elective. In some programs electives must be chosen from a designated group of courses, in which case a general elective cannot be used as a substitute.

Industrial Trades Programs

Exemption status is granted if the course has a minimum of 70% equivalency in the course material required. When exemption status is awarded, no mark is reported on the transcript and the G.P.A. is not affected. The College will consider exemptions for courses if the student received a passing grade. Students must initiate exemption status requests within one (1) week of the semester start date.

The College will accept any course from a recognized post-secondary institution as an exemption if the course can match 70% of the objectives in the current Provincial Plan of Training as outlined by the Department of Advanced Education and Skills.

Credit for Prior Learning

Enrolled students will be given every opportunity to receive credit for past learning experience through a comprehensive systematic process of evaluation referred to as Prior Learning Assessment and Recognition (PLAR). Students must initiate PLAR requests within one (1) week of the semester start date.

Credits awarded for Prior Learning Assessment and Recognition will be recorded on the student transcript as an exemption or as a mark.

There will be no charge for Prior Learning Assessment and Recognition for students who are enrolled in a College program.

The maximum number of credits that can be awarded through the Prior Learning Assessment and Recognition process is 75% of the number required to complete the certificate/diploma.

Block Transfer/Advanced Standing

The College will recognize course work completed in other programs/courses that fulfill the requirements for a designated percentage of the program in which the student is now applying. When students are granted a block transfer, their academic grades will be calculated beginning at the point of entry to the program. Students must initiate block transfer requests within one (1) week of the semester start date.

Credit System

Credit Programs (other than Industrial Trades)

A credit is a weighted value of a course based on the depth and breadth of the learning objectives.

For the purpose of assigning credit values, the measurement of learning objectives is usually accomplished by equating the value with the period of time scheduled to deliver the content in the conventional lecture methodology as follows:

Learning objectives scheduled for delivery in a one hour period per week per semester constitutes a one credit value; therefore a course that is scheduled for three hours per week per semester represents a three credit value. However, a recognized laboratory experience is usually measured in the following manner:

2 – 4 hours of lab/week/semester is equivalent to one credit
5 – 7 hours of lab/week/semester is equivalent to two credits
8 – 10 hours of lab/week/semester is equivalent to three credits
11 – 14 hours of lab/week/semester is equivalent to four credits

The actual process in achieving competency in specified learning objectives can be accomplished via a second equally legitimate and pedagogically sound methodology; i.e. individualized and student-centered. In this latter methodology which embraces distance delivery, time is a flexible factor, fixed schedules do not apply and the process is student-driven. This is in contrast to the conventional lecture mode which is teacher-directed with fixed learning times and schedules. The one constant for both modes is the set of learning objectives. Therefore, credit value is assigned by determining the equivalent time required if the learning objectives were delivered in the conventional mode and applying the formula as described under the definition of a credit.

Credit System – Industrial Trades
The credit system is not applicable to programs in the School of Industrial Trades. Courses adhere to the Provincial Apprenticeship Program Structure (Plan of Training).

Grade Point Marking System
Grade Point Marking System – Credit Programs (other than Industrial Trades)
The percentage mark in any course is converted to a grade point according to the following table:

80% and over	4
70%, 75%	3
60%, 65%	2
50%, 55%	1
Below 50%	0

The grade point average is obtained by multiplying the credit value of each course in the program by the grade point obtained in that course. The sum of all the products is then divided by the total number of credits.

When a course is repeated or a supplementary examination is written, the highest mark attained will be used in the calculation of the grade point average.

When students complete more than the minimum number of electives, students are able to select which electives will be used in the calculation of the G.P.A. by making application at the campus admissions office. Without such application for calculation purposes, the required number of electives as recorded chronologically on the transcript will be selected.

Grades for failed courses which have been waived under the "academic warning" policy will not be calculated in the cumulative grade point average.

Grade Point Marking System - Industrial Trades
The Grade Point Marking System is not applicable to programs in the School of Industrial Trades. Courses adhere to the Provincial Apprenticeship Program Structure (Plan of Training).

Academic Status
Clear Standing
Students are in clear standing when they have passed all courses and have attained a grade point average of at least 2.0, except in the following:
a. In Diagnostic Ultrasonography, Medical Laboratory Assistant, Medical Laboratory Technology I, II and III, Medical Radiography II and III, Respiratory Therapy I, II and III programs the pass mark is 60%, including a minimum of 60% on the final exam, in core courses.
b. In Industrial Trades programs the pass mark is 70% in the practical component and 70% in the theory component.
c. In Aircraft Maintenance Engineering Technician and Aircraft Structural Repair Technician, the pass mark is 70%.
d. In Primary Care Paramedicine, the pass mark is 70%, including a minimum of 70% on the final exam, in core courses.
e. In Practical Nursing and Personal Care Attendant, the pass mark is 65%.

Conditional Status Credit Programs (other than Industrial Trades)
Students are classified as conditional when: they have a cumulative grade point average between 1.00 and 1.99 in any semester, or when they must clear course deficiencies in order to graduate (e.g., students who must successfully complete a failed course through supplementary examinations or repetition).

Students are expected to attempt courses from previous semesters (if available), before registering for any new course, and must consult with a faculty advisor and/or counsellor on or before registration.

Conditional Status Industrial Trades
Students are classified as conditional when they must clear course deficiencies in order to graduate. Students who are required to successfully complete a failed course must follow the regulations as outlined in Industrial Trades Rewrite Policy AC-117 / Procedure AC-117-PR.

Academic Warning
Students will receive an academic warning if their cumulative grade point average is less than 1.0 and/or they have not passed a minimum of 40% of the credits attempted in the semester.

Students, who, for the first time fail to achieve the minimum re-admission requirements will be given an academic warning and will be permitted to register for the next semester provided:
1. Those students will be referred to a counsellor and will participate in a review of their career/academic goals and will develop learning strategies that will lead to success.
2. In consultation with the academic advisor/counsellor, the student will determine an appropriate course load. The maximum course load will not exceed the normal semester workload for the program.

Students will be permitted to register only for those courses for which prerequisites have been successfully met.

Academic Dismissal
Students who have availed of the "academic warning" option and who fail to meet the re-admission requirements for a second occasion will be academically dismissed.

Students who have been academically dismissed will not be accepted to return until a period of six months has elapsed.

Students who have been academically dismissed on two or more occasions will not be eligible for re-admission for a period of two years from the date of dismissal.

Pending availability of space, students who have been academically dismissed will be permitted to register for one (1) course for credit in a certificate or diploma program or two (2) courses in the Comprehensive Arts and Science (CAS) Transition program, providing that the course pre-requisites are met.

Academically dismissed students will not be eligible to write supplementary exams.

Promotion Denied (General)
Students who do not achieve a pass in all courses and a G.P.A. of 2.0 or better may not be able to continue with their program but may return to the College to complete deficiencies.

Students who are required to withdraw from the College as a result of promotion denied must apply for re-admission and pay the applicable application fee. Re-admission will be considered pending seat availability.

Students in the Health Sciences programs will be required to withdraw from their program of study at the point in their program where it is determined that the one (1) additional year (maximum) will not be adequate for them to complete all the requirements of the program.

Promotion – Engineering Technology Programs from First Year
To qualify for the technical intersession at the end of the first two semesters, students must normally have successfully completed all prescribed courses and attained a minimum overall G.P.A. of 2.00. Students who have a G.P.A. between 1.00 and 1.99 at the end of the second and subsequent semesters may, with the permission of the College, be conditionally admitted to the next semester if there is a determination that the students are capable of attaining clear standing by the end of the subsequent semester.

Promotion – Health Sciences
Health Sciences programs include mandatory clinical training rotations. Students must successfully complete all previous courses and have a minimum G.P.A. of 2.00 to be promoted to the clinical training component of their program.

Promotion – Co-op Programs

Successful completion of work term requirements is a prerequisite for graduation. To be eligible for a work term a student must have "clear standing" for all courses prescribed in the program to the point where the work term occurs; or be able to attain clear standing by writing one supplementary.

Examinations and Tests

Dates for mid-term, final, and supplementary examinations will be set in advance. No more than two mid-term and final examinations will be scheduled for a student on any one day.

Student evaluation will be conducted on a continuous basis. The method of evaluation will be recommended in the official course description. Grades submitted to the campus admissions/student services office will be rounded in units of five, rounding up or down will be at the instructor's discretion.

Instructors shall not be permitted to give quizzes worth more than 10% of the total final mark or assign new projects, assignments, etc., in the two (2) week period prior to the start of semester examinations. This regulation does not apply to:

1. Courses with no final semester examination.
2. Laboratory examinations.
3. Self-directed and modular courses.
4. Courses with block teaching.
5. Assignments given prior to this period which are due in the two weeks prior to examinations.
6. Courses offered in Intersession I and II (i.e. up to 8-week period). The time frame for these courses will be one (1) week prior to the start of examinations.

Supplementary Examinations

Supplementary Exams Credit Programs (other than Industrial Trades)

Supplementary examinations provide an opportunity for students to improve their standing in a course in which they have attained a failing grade of 5 or 10 marks below the stated pass mark.

For upgrading purposes, in their last semester of studies, students may be given an opportunity to write a supplementary examination for a course in which they have attained the minimum pass mark or five marks above the minimum pass mark.

The grade attained in a supplementary examination will replace only the grade attained in the final examination for the course in question and will be combined with marks previously attained for term work.

The following conditions must be met in order to qualify for supplementary examinations:

1. Students may be eligible to write one supplementary per semester.
2. Supplementary exams will not apply to any course in which the final exam is worth less than 30%.
3. Supplementary examinations will be scheduled and should be written during the supplementary period following the regular examination period, but shall be no later than one (1) week into the subsequent semester.
4. Students must apply, in writing, for supplementary examinations. The established standard fee per supplementary examination must accompany the application form. Refunds of such fees will only be permitted if permission to write an examination is not granted.
5. If the mark obtained in the supplementary is lower than the original mark obtained on the regular examination, the original mark will be included in calculating the grade point average.
6. When circumstances warrant, supplementary examinations may be written off-campus. The campus admissions/student services office must be contacted for permission and guidelines prior to the examination period. All costs associated with the administration of off-campus supplementary examinations will be borne by the student.
7. Academically dismissed students are not eligible to write supplementary exams.
8. For purposes of transfer of credit, students must be aware that other post-secondary institutions may not accept grades attained through supplementary examinations.
9. Comprehensive Arts and Science (CAS) Transfer: College-University program students who write supplementary examinations are advised to consult with the counsellor at a campus where the Comprehensive Arts and Science (CAS) Transfer: College-University program is offered concerning their transferability of courses to Memorial University.
10. Before writing a supplementary examination in the Comprehensive Arts and Science (CAS) Transfer: College-University Program, a student must be informed in writing of #8. The written communication (i.e., form) must be signed/dated by the student, the instructor of the course and campus administration or designate. Copies should be kept by the instructor and campus administration, and a copy must be placed in the official student file.

DEFERRED EXAMS

Deferred Exams Credit Programs

Students who are prevented by illness, bereavement or other acceptable cause from writing a final examination, where one is scheduled, may apply for permission to write a deferred examination. The deferred examination is the final examination for the individual concerned.

Where possible, deferred exams should be completed by the last day of that semester, or as soon as possible thereafter, but shall be no

later than one (1) week into the subsequent semester.

A request for deferred examinations must be submitted to the campus admissions/student services office within two (2) days after the date on which the regular examination was scheduled. The request for a deferred exam will be assessed by the campus administration or designate in consultation with faculty members. Students should note that permission to write deferred examinations is a privilege, not a right, granted solely on the basis of extenuating circumstances.

Incomplete Grades

Incomplete Grades Credit Programs (programs other than Industrial Trades)
Subject to the approval of the campus administration or designate, an incomplete grade may be assigned when the mandatory components of the course are not completed. Incomplete grades must be cleared by the end of the third week after the beginning of the subsequent semester. If incomplete grades are not cleared by this date, students will receive a failing grade.

Incomplete Grades - Industrial Trades
The incomplete grades regulation does not apply to Industrial Trades programs.

Reassessment of Grades
Students, who feel that they may not have been accurately assessed on any assignment, examination, term paper, or laboratory or shop exercise should, in the first instance, discuss the matter with the instructor teaching the course. This should be done within three (3) instructional days of the receipt of the assessment. If this does not result in a satisfactory resolution, students may request that the matter be reviewed by the campus administration. If this action is taken, it must be done within five (5) instructional days of receipt of the assessment. Unsatisfactory resolution of the dispute at this stage may enable students to request a review of the grade(s) by the Academic Appeals Committee. Such an appeal should be made within ten (10) days of receipt of the assessment.

Re-Read of Final Examinations
Students may apply to have a final examination paper re-read.

An application for re-read must be submitted to the campus admissions/student services office within one (1) week following the release of the marks. A re-read fee must be paid at the time of application. If the mark is changed after the re-read the fee is refunded; if the mark is unchanged the fee is forfeited.

The mark obtained in a re-read (even if lower) stands as the official mark in the course and is used in all calculations of the student's academic record.

Re-Writes - Industrial Trades
Students enrolled in Industrial Trades programs (excluding Aircraft Maintenance Engineering Technician and Aircraft Structural Repair Technician) will follow regulations as outlined in the College Industrial Trades Rewrite Policy AC-117 / Procedure AC-117-PR.

A rewrite of a final evaluation provides an opportunity for students to improve their standing in a course in which they have attained a failing grade. The grade attained in the rewrite will be used to determine the final grade.
The number of rewrites allowed is by semester, not by course. Students may be eligible for a maximum of two (2) rewrites during the fall semester, a maximum of two (2) rewrites during the winter semester and a maximum of one (1) rewrite during intersession.

The following conditions must be met in order to qualify for a rewrite:
1. A score of at least 60% on the original exam;
2. Attendance of at least 90%.

Because of course pre-requisite requirements, and in the interest of not falling behind in the program, all interventions will take place as soon as possible and a re-write, if required, will be administered within five (5) business days after the date of the original final evaluation.

The mark obtained on the re-write will be used to determine the final grade.

For complete details please refer to the College Industrial Trades Rewrite Policy AC-117 and Procedure AC-117-PR.

Aegrotat Status

Students who, through illness or other exceptional circumstances, have been absent from a scheduled final examination, or who have been unable to complete all of the required work in a course, may, on the recommendation of the counsellor, in consultation with the campus administration and instructor be given credit for the course.

Application for Aegrotat Standing, with full details duly authenticated, must be made to the campus admissions/student services office within one (1) week after the last day of examinations, indicating each course for which the application is being made.

Co-op Regulations

1. Work term learning is integral to co-operative education, and a co-op diploma will be awarded to students who successfully complete work terms as articulated in their program structure. Work terms provide unique learning experiences in a real work place setting. They are program relevant, full-time, 12 – 16 weeks in duration, and normally remunerated. Scheduling of work terms varies by program; however they alternate between academic semesters. Work term start and finish dates correspond with academic semesters; however specific dates are established with each employer.
2. To be eligible for a work term, a student must have "clear standing" for all courses prescribed in the program to the point where the work term occurs; or be able to attain clear standing by writing one supplementary.
   Since work term arrangements are often made in advance of the commencement of the work term and before current academic assessments are available, eligibility will be based on the most recent transcript for marketing purposes. Students MUST maintain eligibility in the semester immediately preceding the work term semester.
3. The co-op term mark will result from both employer and institutional evaluation. Students must achieve a minimum of 50% in each of the work term performance evaluation and the work term report, and must achieve a combined grade of 60%. The work term mark will be recorded on the student transcript.
   a. Work term performance is evaluated by the employer and monitored by the College.
   b. The work term report is validated by the employer and graded by faculty/coordinators. A student receiving a 40% or 45% grade on the work term report will be eligible to re-submit the report. The report must be re-submitted no longer than four weeks after receipt of the work term evaluation.
4. Students are encouraged to obtain their own work terms. Such work terms must be confirmed by letter from the employer and approved by the coordinator on or before the first day on which the student commences work.
5. Students are required to sign a waiver giving permission to the College to supply students' resumes and transcripts to potential employers.

Qualifications for a Diploma, Advanced Diploma, Post Diploma or Certificate

Students must meet the following requirements:
1. Meet all the requirements as prescribed in the program of studies;
2. Obtain a mark of not less than 50% in every course in the program unless otherwise specified (Refer to Academic Status);
3. Attain a minimum grade point average of 2.0;
4. Obtain 25% or more of their credits from the College.

Students, other than Health Sciences students, who do not complete their certificate or diploma program in the prescribed time frame from first day of classes, may complete the program by following the regulations in effect at the time of first registration provided the program is completed in not more than three (3) years beyond the regular date of completion. A student who does not complete a program within these prescribed time limits may be required to complete additional courses and/or repeat certain courses before being deemed eligible to receive the certificate or diploma.

Students who return to complete a diploma in any of the Business/Office programs, Information Technology programs, and/or Engineering Technology programs may not receive credit for courses that were completed more than five (5) years prior to the date of re-admission.

Students enrolled in accredited Health Sciences programs will be permitted a maximum of one (1) additional year to complete their program of studies.

Students who return to Industrial Trades programs will be required to complete all courses that are in the current Plan of Training to be eligible to receive a certificate.

Parchments

Upon the successful completion of a program of studies, students will be awarded one of six parchments:
1. A Certificate in (Program Title)
2. A Diploma in (Program Title)
3. A Post Diploma in (Program Title)
4. An Advanced Diploma in (Program Title)
5. A Certificate of Achievement in (Program/Course Title)
6. A Certificate of Participation in (Program/Course Title)

Academic Documentation
Transcripts
1. Official Transcripts may be obtained at any time from any campus admissions/student services office. Requests for transcripts must be made in writing and must contain the student's signature.
2. A transcript includes the student's academic record to date including academic decisions which may have been taken. Transcripts that are released will include the student's complete academic history.

Transcripts, diplomas, certificates, and access to view grades in self-service, will be withheld from a student who is in possession of College property such as books, equipment or supplies or who owes money to the College.

Grades
Students will be able to view their grades through student self-service after the end of each semester.

Replacement of Parchments (Diplomas or Certificates)
The College may, upon submission of the appropriate form (and fee), re-issue parchments which are lost or stolen or damaged.
a. **Requirements for a parchment to be re-issued:**
   A request for replacement form must be signed and dated by the individual. The appropriate fee must accompany the application.
b. **Details of the re-issued parchment:**
   Parchments shall be re-issued in the format and style of those being used at the time of replacement, and shall indicate the original institution name, original date of issue as well as the date of re-issue.

Student Appeals (Academic)
All registered students of the College have the right to appeal decisions or rulings which affect them and which pertain specifically to academic matters. Please refer to Policy SS-213 / Procedure SS-213-PR for further details.

Student Appeals (Non-Academic)
All students of the College have the right to appeal decisions or rulings that affect them and which pertain specifically to non-academic matters. Please refer to Policy SS-203 / Procedure SS-203-PR for further details.

AWARDS

The College offers opportunities to students in many programs to compete for a variety of achievement awards, scholarships, bursaries, distinction awards, prizes and graduation awards. An Awards Handbook outlining all awards available, as well as the specific criteria, is available on the College website www.cna.nl.ca/awards

Definition of Awards

Achievement Award
Monetary award given in recognition of academic excellence, leadership and community/college involvement.

Scholarship
Monetary award given in recognition of academic excellence.

Bursary
Monetary award given in recognition of academic merit and financial need.

Distinction Award
An award given in recognition of a variety of qualities. Some examples would be but are not limited to: passion for learning, demonstrated initiative, significant contribution to class, good work ethic, positive attitude, willingness to help others and/or a strong desire to succeed.

Prize
Award given in recognition of performance in a particular subject area or task.

Medal
President's Medals of Excellence, Governor General's Academic medals, and other medals presented upon graduation.

Honour Society
Students achieving academic excellence as prescribed by specific criteria will become members of the College of the North Atlantic Honour Society.

Graduated with Honours: Students achieving Honours status as prescribed by specific criteria will have "graduated with honours" on their official transcript.

Academic Excellence
For the purpose of achievement awards and scholarships, academic excellence refers to a candidate who has attained the minimum weighted/overall average of 75% or higher. Note: some programs are based on weighted average and others are based on overall average.

Academic Merit
For the purpose of bursaries and prizes, academic merit refers to a candidate who has attained the minimum weighted/overall average of 60% or higher except in cases where the grading basis is higher for their program. Note: some programs are based on weighted average and others are based on overall average.

Application Process
Application forms for awards administered by the College are available at the campus Student Services office and the College website.

Unless otherwise stated, applications are **not** required in order to be considered for medals, scholarships or prizes.

The deadline for receipt of applications for bursaries and other awards can be obtained at each campus Student Services office and College website but is generally mid-January. Please see application for exact date.

Criteria for Awards
- During a campus or provincial awards selection process no achievement award, scholarship, distinction award, bursary or prize administered by the college, within that process, shall be awarded to a candidate who holds an award of equal or greater value, unless specifically required by the terms of the award.
- To be eligible for any award, a student must be registered as a **full-time** student in a recognized College program.
- To be eligible for renewal of an achievement award, scholarship or bursary the student must maintain full time status in their recognized College program and continue to meet eligibility requirements of the award.

The eligibility criteria for awarding an achievement award or a scholarship:
- Candidates must be in clear academic standing with a minimum weighted/overall average of 75%.
- At least 80% of the credits accumulated at the point of consideration for awards must have been obtained at the College.
- Courses which are not included in the requirements for graduation will not be included in the calculation of the weighted/overall average.
- Candidates must have attained a passing grade in **ALL** courses being considered in establishing weighted/ overall average. Marks obtained in supplementary exams will be considered in the calculation of the weighted/overall average.
- In cases where the student repeats a course, the best earned grade will stand for calculation of the weighted/overall average.

The eligibility criteria for awarding a bursary, distinction award or a prize:
- Candidates must be in clear academic standing and have attained a minimum weighted/overall average of 60%, except in cases where the minimum grading basis is higher. The weighted average will be used except in cases where programs use an overall average.
- At least 80% of the credits accumulated at the point of consideration for awards must have been obtained at the College.
- Courses that are not included in the requirements for graduation will not be included in the calculation of the weighted/overall average.
- Candidates must have attained a passing grade in **ALL** courses being considered in establishing weighted/ overall average. Marks obtained in supplementary exams will be considered in the calculation of the weighted/overall average.
- In cases where the student repeats a course, the best earned grade will stand for calculation of the weighted/overall average.

The eligibility criteria for awarding the Governor General's Medal:
The Governor General's Medal is awarded to one full-time **graduate** who has achieved the highest weighted/overall average at each campus, where applicable. The student must be graduating from a **two** or **three-year diploma level** program.

The eligibility criteria for the President's Medal of Excellence:
The President's Medal of Excellence is awarded to one full-time **graduate** in each program who attains the highest weighted/overall average in his/her program. The student will also receive a certificate. The student must meet all college scholarship criteria. The medal is campus based and is available to both the certificate and diploma level programs.

Eligibility for Honour Society at Graduation
The College recognizes graduates who have attained an overall grade point average (GPA) of 4.0 and attained a minimum mark of 80% in each course of their certificate or diploma level program. Students who achieve this will be recognized during the graduation ceremony with an honour cord.

Eligibility criteria for Honour Society (Semester Based):
The College has established an Honor Society to recognize full-time students in certificate, diploma and post-diploma programs who have a grade point average (GPA) of 4.0 and no mark less than 80%.

Transcripts for students who achieve Honour Society status (semester based), will state, "Honour Society" at the end of each semester that they achieve this criteria.

Documentation
Awards administered by the College shall be recorded on the recipient's academic record.

Transcripts for students who achieve honour society status (semester based), will state, "Honour Society" at the end of each semester that they achieve this criteria.

Students who have achieved honour society status (semester based) will have their names posted at their campuses and on the College website at the end of the semester.

Transcripts for students who achieve honour society status at graduation, will state, "Graduated with Honours" on their transcript.

College Awards Publications/Opt Out Form
Students who do not wish to have personal information (name, photo, program of study and community) published by the College must complete an Awards Publications "opt out" form available for download and printing on the College website at https://www.cna.nl.ca/student-support/ pdfs/STD_FORMS/Awards%20Publication%20Opt%20Out%20Form.pdf, and must be submitted to the Student Services office at their campus.

Outstanding Fees
Award recipients who owe outstanding fees to the College will have their monetary award credited to their account.

Privacy Disclaimer

As part of the Scholarship/Awards process, your personal information (name, photo, program of study and community) may be shared with our donor to advise them of how their scholarship monies have been distributed. If you do not wish to have this information shared, please e-mail alumni@cna.nl.ca.

All students who are selected for an award/scholarship/bursary will be required to provide their Social Insurance Number so that a T4A may be issued for income tax purposes.

College of the North Atlantic recommends that students who are receiving funding and/or sponsorship contact their funding/ sponsoring agency for clarification of whether receiving an award may affect their funding/ sponsorship status.

For updates to the Student Awards policy and procedures please visit our website at http://www.cna.nl.ca/About/Policies-and-Procedures.aspx

FEES AND CHARGES

1.0   Regulations Governing Payment of Fees & Charges

a.   All student fees must be paid by the date specified in each term. The dates are listed in the Calendar of Events. Students receiving Student Aid must present their notification of Student Aid form on the first day of classes. These students are permitted to have fees outstanding until receipt of the Student Aid, at which time these students must pay their accounts in full.

b.   Students who have not paid all fees within the time limits given in these regulations may have their registration cancelled by the College.

c.   Students with outstanding accounts will be ineligible for a subsequent term, will not be awarded a diploma or certificate, access to register, and will not be issued a certificate of standing (transcript), grade report, or access to on-line grades until the outstanding account has been paid in full. Students are notified of their account status on a regular basis. It is the student's responsibility to address outstanding balances and to work with their respective campus student services office on inquiries related to their account balance.

d.   Should the College cancel a program, all tuition and fees paid will be refunded.

e.   Out of sequence students, registering or withdrawing within a term, will pay a prorated tuition and equipment and materials fee per week.

f.   Whether a student's program is based on campus or online, the student will pay the required program fees which can include tuition and equipment/materials fees. The technology fee per course will be charged for each online course taken .

g.   Students taking courses above their normal term load (requires application to extend normal course load per semester) will pay tuition for each additional course taken and the applicable technology fee for courses taken online.

h.   Senior Citizens, 60 years and older, are required to pay 50% of confirmation fee, tuition and equipment/materials fees.

i.   Students wishing to audit a course will pay 50% of the tuition and 100% of the equipment/materials fees (if applicable).

2.0   Fees and Charges

2.1   Fees

a.   Application Fee $30.00 (non-refundable except as noted in 3.a)
Applicants must pay a non-refundable fee for each application to the College

b.   Confirmation Fee $98.00 (non-refundable)
Student must pay a non-refundable fee on confirmation of acceptance to each program at the College. The fee covers registration and student association fees and is paid annually for the duration of the program.

c. Supplementary Fee (per course)	$25.00
d. Re-Read Fee (per evaluation)	$25.00
e. NSF Cheques (per cheque)	$25.00
f. Replacement I.D. cards (per ID)	$15.00
g. DL/Online Deferred Evaluation fee (per request)	$65.00
h. Replacement Parchment (per request)	$25.00
i. Academic Audit fee (per program)	$50.00
j. Resource Camp Fee (per day)	$60.00 (covers food & lodging - not tuition)
k. DL/Online technology fee for in-province students (per course)	$50.00
l. DL/Online technology fee for out-of-province students (per course)	$100.00
m. Work Term fee (Co-op and Non Co-op)	$363.00
n. On the Job (OJT) fees or Work Terms (less than 7 weeks)	$49.00 (Per Week)

o.   Certifications within program of study:

• First Aid fee	$125.00
• Mask Fit fee	$35.00

p.   Day Care fees (contact applicable campus)

q.   International students should refer to "International Students" section of calendar for international student fees.

2.2 Full-Time Students

Fees are subject to change. Please refer to the College website for the most up-to-date fees.

Students enrolled in four (4) or more courses:

a. Application fee per program $30.00 (Non-refundable except as noted in 3.a.)

b. Confirmation fee $98.00 (Non-refundable)

Student must pay this fee on confirmation of acceptance to each program at the College. The fee covers registration and student association fees and is paid annually for the duration of the program.

c. Tuition

   i. Term based programs:

Regular Term (15-weeks)	$726.00
Intersession (up to 7-weeks)	$343.00

   ii. Trade programs (per week) $49.00

d. Equipment/materials fee per term (intended to help offset material costs of program; excluding DL/Online students)

   i. Term based programs:

Regular Term (15-weeks):

Academics/Applied Arts/Tourism	$135.00
Business/Information Technology	$65.00
Engineering Technology/Natural Resources	$210.00
Trades	$210.00
Health Sciences	$210.00
Heavy Equipment/Commercial Driver	$660.00

Intersession (up to 7-weeks):

Academics/Applied Arts/Tourism	$67.50
Business/Information Technology	$32.50
Engineering Technology/Natural Resources	$105.00
Trades	$105.00 (prorated based on weeks in attendance)
Health Sciences	$105.00
Heavy Equipment/Commercial Driver	$330.00 (prorated based on weeks in attendance)

   ii. Out of sequence programs: Fees are pro-rated on the number of weeks in attendance.

e. Student Health and Dental Plan Fees are based on an academic year. The Student Health and Dental Plan is applicable to all full time students. Please refer to Student Health/Dental Plan in the Student Services section of the calendar for coverage details and rates.

2.3 Part-Time Student Fees

Students enrolled in three (3) or less courses (including Regular Programs, Day-time General Studies, and Distributed Learning):

a.	Application fee for program	$30.00
b.	Tuition fee per course	$230.00
c.	Technology fee-per course for in-province DL/Online students	$50.00
	Technology fee-per course for out of province DL/Online students	$100.00

2.4 General Studies Fees

General Studies students who enroll in "classroom" courses will pay a maximum tuition of $726.00 and Equipment/Materials fee of $100.00.

General Studies students who enroll in "DL/Online" courses will pay a maximum tuition of $726.00 plus applicable Technology fee for each DL course as per 2.2.

General Studies students who enroll in a combination of "classroom" and "DL/Online" courses will pay a maximum of $726 plus applicable Technology fee for each DL/Online course as per 2.3. Depending on the number of "in-classroom" courses taken, equipment/materials fees may also be charged.

2.5 Continuing Education

Contact local campus for course fees.

2.6 Residence Fees

Students must pay a minimum of two weeks residence fees in advance, or upon arrival in residence. Students intending to move out of residence must give 30 days' notice or pay a penalty of $100.00.

Students are responsible for providing their own bed linens and laundry service.

Meal plans are mandatory.

a. Fees applicable to all campuses
    Residence Application fee $25.00
    (This is an annual fee and is non-refundable)
    Residence Registration fee – Single/Double Residence $50.00
    (This is an annual fee and is non-refundable)
    Residence Registration fee – Family Residence $100.00
    (This is an annual fee and is non-refundable)
    Damage Deposit – Family Residence $100.00
    (This is an annual fee and is non-refundable)

b. Room Charges

	Single	Double
Daily	$15.00	$10.00
Weekly	$60.00	$40.00

c. Rooms and Meals (combined)

	Single	Double
Bay St. George Campus		
Room and 10 meals weekly	$156.00	$136.00
Room and 14 meals weekly	$195.00	$175.00
Room and 19 meals weekly	$243.00	$223.00
Burin Campus		
Room and 5 meals weekly	$108.00	$88.00
Happy Valley Campus		
Room and 14 meals weekly	$195.00	$175.00

    Family Residence (Monthly/No Meals)
    One Bedroom Apartment $300.00
    Two Bedroom Apartment $365.00
    Three Bedroom Apartment $425.00

3.0 Refunds

a. Application fees are only refundable if the program does not go ahead and the applicant does not want to transfer the application to another program.
b. Confirmation fees will be refunded only to individuals who were conditionally accepted and upon receipt of High School marks do not meet the academic entrance requirement to the program.
c. Refunds will be made to the same method of payment (e.g. refunded to the same credit card payment was issued from or refunded to bank account when method of payment was bank transfer).
d. Tuition and Equipment/ Materials Fees
    i.   **Term-based (15-weeks)**
         - Day 1 – 28: 100% refund
         - Day 29 – 42: Prorated refund
         - Day 43 onwards: no refund
    ii. **Intersession (up to 7 weeks)**
         - Day 1 – 14: 100% refund
         - Day 15-21: Prorated refund
         - Day 22 onwards: no refund
    iii. **Out of sequence programs**
         A student who graduates or withdraws from the program will be liable for the actual number of weeks in class. Any over-payment will be refunded.
    iv. **Trades programs**
         A student who graduates or withdraws from the program will be liable for the actual number of weeks in class. Any over-payment will be refunded.
e. **Refunds for Customized and Continuous Learning**
    i.   Customized training programs of 15 or more weeks duration:
         Refer to Section c.i to c.iv.

ii.   Customized training programs of 6 to 14 weeks duration:
A student who withdraws/ cancels within one week of the start date of a training program will receive a full refund upon written request. A student who withdraws/cancels within two weeks of the start date of a training program will receive a 50% refund upon written request. No refund will be made after the second week of the program start date.

iii.   Customized training programs of 2 to 5 weeks duration:
A student who withdraws/ cancels after one day of a course/program start date will receive a full refund upon written request. A student who withdraws/ cancels by the end of the second day of a course/program start date will receive a 50% refund upon written request. No refund will be made after two days of a course/program start date.

iv.   Part-time Continuous Learning (i.e. part-time hours/outside regular delivery hours):
Students must notify Continuous Learning of their intent to withdraw or cancel at least 5 days prior to the start date of a course to be entitled to a full refund. If the student notifies the office with the intent to withdraw or cancel less than 5 days prior to the course start date, the student will receive a 50% refund. A student who registers for a course, does not notify the College of their intent to withdraw, and does not attend any classes, will be deemed a "no show" and will forfeit their tuition fees. In the event the College cancels a course offering, students will receive a full refund. Special circumstances may apply to any of the above conditions, in which case supporting documentation is required.

v.   Client Contracts
The refund policy for client contracts is set out in the College's standard Contract Training Agreements.

f.   **Textbooks**
Refunds may be given for returned textbooks if the following three conditions are met:
i.   Books are unmarked and in saleable condition
ii.   Books are returned within the first three weeks after the commencement of classes
iii. Original receipts are presented before a refund is issued.

Students are responsible for initiating their own refunds and should contact the campus admissions/student services office. All refunds will be issued by Headquarters. Any refunds will be applied against outstanding accounts before any monies are returned to the student. If a student terminates or voluntarily withdraws from a program of studies, the refund from student loans will be forwarded to the National Student Loan Service Center.

4.0 Financial Credit

Deadline for payment of specified fees is provided in the Calendar of Events. The College may grant credit to students to cover tuition and/or materials fees only (credit is not available to cover books or residence fees). The College may from time to time institute equipment lease/purchase programs for which credit may be granted. Students applying for financial credit must meet with a Student Services representative for assessment of their request. Credit will not be granted to students with outstanding fees from prior semesters.

Financial Contract
If financial credit is recommended, the student must complete a Financial Contract in consultation with a Student Services representative. The Financial Contract will specify what is covered and for what period of time – not to extend beyond the semester within which the contract is completed. The completed Financial Contract must be reviewed and signed by Campus Administration or an approved designate. The student is subject to collection action if the account is not paid.

Students Receiving Student Loans
Students with confirmed student loans are eligible for credit. When the student loan is issued, the amount owing will be deducted by the College as specified in the Financial Contract.

Students Receiving External Funding
Students with documentation confirming external funding will be granted credit and are expected to pay their fees once they are in possession of their funding as agreed to in the Financial Contract.

Students Not Receiving Student Loans or External Funding
Students seeking financial credit who do not meet the above criteria will only be granted financial credit in extenuating circumstances and upon written approved by Campus Administration or designate.

5.0 Financial Appeals

Appeals of a financial assessment should be made in writing to the Director of Finance at P.O. Box 5400, 432 Massachusetts Drive, Stephenville, NL A2N 2Z6.

The appeal should include, but not be limited to, the following information:
(i)   Student number
(ii) Program and campus;
(iii) Rationale as to why the fee(s) should be reversed;
(iv) Documents supporting appeal rationale.

Once this is received by the Director of Finance, the request will be reviewed with potential inquiries back to you or to the campus for clarification. A meeting will be held with a committee to review the request and a recommendation made to our Vice President, Finance and Administration. A communication regarding the decision will be provided.

Please note the College is collecting your personal information under the authority of the College Act, 1996, for the purpose of processing your appeal. It will be used by College staff in their work to complete the appeal process. The Director of Finance will summarize your appeal for the committee and limit the personal information shared to only that which is necessary. Questions about the collection and use of the information provided in this appeal can also be directed to the Director of Finance at kelly.hanlon@cna.nl.ca.

Receipts are issued for any financial transactions with the College. Students should ensure that they obtain and save these receipts for use in resolving any financial conflicts. In the absence of such documentation, the College financial records shall provide the basis for any decision.

STUDENT SERVICES

Introduction
Student Services is the division of the College that provides services to students to support and guide them in pursuit of their educational goals. Student Services complements and supports the student's academic experiences by establishing a College environment that fosters engagement, persistence, growth and development, and academic success.

Counselling Services
All students have access to a professional Counsellor for career, social, financial, employment, and personal counselling. As well, Counsellors are responsible for standardized testing and are integral in recruitment and retention initiatives.

Accessibility Services
Services for students with disabilities are available through the Accessibility Services Coordinators. It is the responsibility of the student to identify his/her accommodation needs/disability. The student, the Coordinator and others as identified, will develop an acceptable program and service plan to help remove barriers related to access and success. Delivery of outlined program and services may involve a Resource Facilitator at some campuses. Please refer to Policy/Procedure SS-207 in the Student Services section of Policies and Procedures at http://www.cna.nl.ca/About/Policies-and-Procedures.aspx for further details.

Student Development Services
Student Development Officers (SDO) plan and implement various student engagement initiatives and provide guidance and assistance for student-led initiatives (campus-based and provincial). Student engagement initiatives contribute to positive and meaningful student experiences, build on student spirit, promote attachment to the institution and foster relationships within and outside the institution. These activities include, but are not limited to, orientation, spirit days, graduation ceremonies, scholarship and awards program, signature and special events, recreation/sports, health and wellness, student and graduate employment, social activities, and other extra-curricular activities. The SDO acts as the College liaison between the students and the College administration/staff and is an advisor to the campus CNASU. SDOs may also be involved in coordinating peer tutoring and assisting students with financial aid information. The SDO is also responsible for organizing and conducting recruitment liaison initiatives including participation in career fairs, school visits and trade shows.

Library/Learning Commons
Campus library services/learning commons are offered by a staff of library professionals who provide assistance for students wishing to make use of the library resources and services. Every campus library has a collection of materials intended to support and complement program curriculum at the particular campus along with a varying amount of materials for recreational reading. On line access to article databases and reference books is provided both on campus and from home. Library staff is available to help students with research, including assistance with finding materials in library collections and through electronic resources. Through inter-library loan, materials can be borrowed from other College of the North Atlantic libraries and most lending libraries across Canada.

Library tours and individual or group instruction in the use of the library and its resources may be arranged. Students are encouraged to visit the campus library to see exactly what is available. You can also visit the library website at: http://www.cna.nl.ca/Current-Students/Library-Services.aspx

Academic Advising
Academic advising is an interactive process designed to help students gain the maximum benefit from their College of the North Atlantic experience. It is primarily intended to support students in achieving academic success. Advising entails using both College and community resources to assist students in making informed decisions, directing students to other information sources when necessary, and making appropriate referrals. Each first year student is assigned an Academic Advisor (program instructor) who initially meets with his/her group of advisees to discuss the importance of academic advising and the advising schedule for the semester/ year. The Advisor should meet with each student for a minimum of two formal sessions per semester.

Help Centres/Peer Tutoring
Help Centres, located online through MyCNA, and physically on some campuses, provide a location for students to receive assistance with course work in which they may be experiencing difficulties.

Individual and group tutoring may also be available. The College supports a peer tutoring program whereby students may access peer tutors or earn remuneration as a peer tutor. Please check with the campus Student Development Officer/Counsellor for further details.

Student Governance
College of the North Atlantic supports the activities of the student body provincially through the College of the North Atlantic Student Union (CNASU) and through the CNASU-campus and. Each of these student organizations is governed by Operating Guidelines which can be obtained from the Student Development Officer, Counsellor, CNASU-campus or online at www.cna.nl.ca.

CNASU-campus aims to address the issues of the students locally, provincially, and nationally. In September of each year, elections are held at each campus to elect members of the CNASU-campus, who may be involved in the organization and delivery of various extra-curricular activities on behalf of students:

- Winter Carnival
- Recreational and Athletic Activities
- Social Events
- Student Newspaper and
- Yearbook

College of the North Atlantic Student Union (CNASU) provides a provincial forum for representatives from the various CNASU-campus to work cooperatively in advancing the interests of the students they represent. The CNASU promotes awareness and understanding of the needs and issues confronting students and advocates on their behalf. Students are encouraged to become involved with their CNASU-campus and have a voice in the events that influence their educational experience.

Students interested in the CNASU-campus or the College of the North Atlantic Student Union (CNASU) should contact the campus Student Development Officer.

Student Health/Dental Plan

Registered students at the College have access to drug, extended medical, and dental insurance coverage. The plan is **mandatory** unless documents demonstrating coverage under another plan (through employment/spouse/parent) is presented during the Health and Dental enrolment period. If a student does not opt out by the deadline, he/she will automatically be enrolled and his/her student account will be charged accordingly. Please check with the Student Services office for the opt out deadline for particular programs.

Beyond the coverage of Newfoundland and Labrador Medical Coverage Plan (MCP), the student plan will provide insurance for prescription drug costs (including oral contraceptives, anti-depressants, and acne medication), physiotherapy, massage therapy, speech therapy, chiropractic, and podiatry as well as accidental death and dismemberment insurance ($10,000 coverage), and emergency travel insurance to protect students when they are away from school.

The dental coverage includes cleaning, oral exams, scaling, x-rays, fillings, inlays, and root canal therapy with a maximum yearly benefit of $500.

For more information please contact the campus nearest you or visit our website at www.cna.nl.ca.

Please refer to the International Student section of this calendar for information regarding Health Insurance for International Students.

Accident Insurance

Student insurance coverage against accidents while going to and from the College, while in the college or participating in related College activities such as organized games is mandatory. The premium is included in the registration fee.

When an accident happens, minor or otherwise, students should report immediately to their instructor who will take the necessary action.

Student Handbook

The College will provide an on-line Student Handbook annually via the MyCNA webpage. This handbook includes important information and useful tips for students. Please review the MyCNA link on the College website to access the on-line Student Handbook.

Student Code of Conduct (Rights and Responsibilities)

College Policy SS-201 respects the general rights of students and recognizes that students also have responsibilities. Please refer to this policy/procedure in the Student Services section of Policies and Procedures at http://www.cna.nl.ca/About/Policies-and-Procedures.aspx for further details.

Harassment Policy

All registered students have the right to pursue their studies and related activities free from personal harassment from College employees, fellow students, and agents of the College or others. Please refer to Policy/Procedure PO-005 in the President's Office section of Policies and Procedures at http://www.cna.nl.ca/About/Policies-and-Procedures.aspx for further details.

Threats and Acts of Violence

All students, staff and other persons visiting the College have the right to a healthy and safe environment free from threat and/or the act of physical or sexual injury, danger or violence. Please refer to Policy/Procedure SS-215 Threats and Acts of Violence in the Student Services section of Policies and Procedures at http://www.cna.nl.ca/About/Policies-and-Procedures.aspx for further details.

Appeals

All registered students of the College may appeal a decision or ruling that affects them as it pertains to academic matters, matters of student discipline and student rights and responsibilities. Please refer to Policy/Procedure SS-203 and SS-213 in the Student Services section of Policies and Procedures at http://www.cna.nl.ca/About/Policies-and-Procedures.aspx for further details.

Student Aid

Information and assistance regarding student aid and financial options is available to students at each campus. Contact the campus Student Development Officer or Counsellor.

Chaplaincy Services

Chaplaincy services may be made available to students at the College upon request.

Bookstore

Textbooks for all courses are available either at the College bookstore on each campus or via online ordering .

Childcare Centres

Childcare centres, located on the Corner Brook, Happy Valley-Goose Bay, and Prince Philip Drive Campuses can be utilized for children of students if space is available and set criteria met. These childcare centres are linked to the College's Early Childhood Education programs. Interested students can contact either of these campuses for further information.

Parking

Parking is limited at many campuses and is considered a privilege, not a right. Students, staff and visitors must park in designated parking areas. "No Parking" and "Restricted Parking" areas are designated either by a sign, road markings or both.

STUDENT HOUSING

Off-Campus Housing

The Student Services office at each campus maintains a list of boarding accommodations available. Students attending College of the North Atlantic in St. John's can apply to stay at Memorial University residence by calling 709-737-7590. Students attending College of the North Atlantic in Corner Brook can apply to stay at Grenfell residence by calling 709-637-6266.

College Residences

The College maintains residence facilities at the Bay St. George, Burin and Happy Valley-Goose Bay campuses. Students wishing to apply for residence should contact the campuses listed below to obtain an application and should apply directly to the Residence Office of the appropriate campus.

The Residence Office
Bay St. George Campus
P. O. Box 5400
Stephenville, NL A2N 2Z6
tel: (709) 643-7764

The Residence Office
Burin Campus
P. O. Box 370
Burin Bay Arm, NL A0E 1G0
tel: (709) 891-5618

The Residence Office
Happy Valley-Goose Bay Campus
P. O. Box 1720, Stn. B
Happy Valley-Goose Bay, NL A0P 1E0
tel: (709) 896-6349

Residence space is limited and therefore the College cannot guarantee a room to everyone who applies. All applications are processed on a first-come, first-served basis only after a student has been confirmed in a program at the College. For more information, please contact the campuses above or call 1-888-982-2268.

DISTRIBUTED LEARNING SERVICE (http://dls.cna.nl.ca)

College of the North Atlantic's award-winning Distributed Learning Service (DL) brings the classroom to you!

Complete college courses and full programs without having to attend a college campus. Our award-winning instructors guide you through our cutting-edge curriculum, which carries the same credentials and academic standards as their classroom equivalents.

This asynchronous approach to learning supplies motivated, disciplined and independent learners the opportunity to complete course requirements from home, work, school or any other location that has an Internet connection. This approach also offers a dynamic environment that addresses needs of different learning styles.

During the academic year, our Help Desk provides support seven days a week for extended hours. We supply online chat and toll-free telephone services to ensure that you are supported throughout the duration of your course or program.

Information is exchanged between the instructor and the student primarily through the use of a range of technologies within the online learning management system. Audio, video, web conferencing and virtual classroom tools are also used in some courses. This flexible approach allows you to balance the demands of work and family while reaching your learning goals.

DL is technology-mediated – it's your digital classroom! You will need to be familiar with using computers that are Internet ready. Before registering for a course, learners should take responsibility for familiarization of the technology, and assure access to a computer that has all the software required to complete a course. The time and planning invested at the beginning will pay dividends with a satisfactory and rewarding learning experience! Visit the DL webpage at http://dls.cna.nl.ca. Some programs may have full-time or part-time options.

Available Courses and Programs
Distributed Learning Service provides credit courses from all academic schools. For further information about specific programs and courses offered through DL see the Course Descriptions section of the calendar or view the Distributed Learning Service website at http://dls.cna.nl.ca.
- Art & Design Essentials Certificate
- Atlantic Trades Business Seal Certificate
- Business Administration (BA)
    - BA Accounting Diploma
    - BA General Diploma
    - BA Human Resource Management Diploma
    - BA Marketing Diploma
- Business Management (BM)
    - BM Human Resource Management (3rd Year) Diploma [part-time only]
- Comprehensive Arts & Science (CAS) Transition Certificate
- Early Childhood Education Certificate
- Early Childhood Education Diploma
- Early Childhood Education Administrative Leadership Advanced Diploma
- Enterprise Web Development
- Information Management Post-Diploma
- Journalism Post-Diploma
- Office Management
    - Executive Office Management Diploma
    - Medical Office Management Diploma
    - Records & Information Management Diploma
- Rehabilitation Assistant (OTA and PTA) Diploma
- Tourism & Hospitality Services Certificate
- Video Game Art & Design Diploma
- X-Ray Skills for MLT Post Diploma

Note: The following list of courses is subject to change.

Distributed Learning Courses

AC1100	Bookkeeping I		CP2280	Object Oriented Programming in Java
AC1260	Financial Accounting I		CP2310	Electronic Spreadsheet Applications
AC1350	Income Tax		CP2410	Micro-Database Applications
AC2100	Bookkeeping II		CP2420	PHP
AC2220	Intermediate Financial Accounting I		CP2426	PHP
AC2230	Computerized Accounting I		CP2470	Web Server
AC2231	Computerized Accounting II		CP2640	Desktop Publishing
AC2250	Managerial Accounting I		CP3100	MVC Framework Development
AC2260	Financial Accounting II		CP3105	Word Press
AC2360	Principles of Internal Auditing		CP3130	Content Management Systems
AC2600	Managerial Accounting for HRM		CP3150	Interface Design and Analytics
AC3220	Intermediate Financial Accounting II		CP3155	UI/UX Design
AC3250	Managerial Accounting II		CP3160	Multimedia Development
AM1100	Math Essentials		CP3370	Software Development with ASP.NET
AP1102	Intro to Apprenticeship		CP3470	IM Systems Analysis and Design
BL1020	Introductory Biology I		CP3510	Relational Database Design
BL1021	Introductory Biology II		CP4475	Emerging Trends and Innovation
BL1330	Anatomy		CR1120	Introduction to the Field of IT & Ethics
CH1030	Introductory Chemistry I		CR1260	Client Service for IT Industry
CH1031	Introductory Chemistry II		CR1280	IM Computer Concepts
CM1060	Essential English I		CR1355	OS and Network Technologies
CM1061	Essential English II		CR1360	IM Security
CM1100	Writing Essentials		CR1511	Website Development
CM1200	Oral Communications		CR2170	Trends in Web Development
CM1240	Business Communications I		CR2510	Linux Service Administration I
CM1241	Business Communications II		CR2800	Security for Programmers
CM1270	Communications in Health Care		CR3540	Capstone Project
CM1370	IM Communications		DM1200	Document Production I
CM1400	Technical Report Writing I		DM1210	Document Production II
CM1401	Technical Report Writing II		DM1300	Transcription
CM1450	Writing Fundamentals for the Workplace		DM1400	Medical Transcription I
CM1521	Writing for the Arts		DM1405	Medical Transcription II
CM2100	Workplace Correspondence		DM2200	Document Production III
CM2110	Business Writing Fundamentals		DM2240	Document Production IV
CM2130	Workplace Writing		EC1110	Microeconomics
CM2161	Communication Essentials		EC1210	Macroeconomics
CM2200	Oral Communications		EE1180	Curriculum I
CM2300	Report Writing		EE1181	Curriculum II
CP1010	File Management & Security		EE1290	Positive Behavior Guidance
CP1120	Fundamentals of Programming I		EE1340	Child Development I
CP1212	Intro. to JavaScript		EE1341	Child Development II
CP1289	JavaScript and NodeJS		EE1360	Observation
CP1330	Windows Server Administration		EE1420	Creative Experiences I
CP1410	E-Commerce Web Analysis and Design		EE1421	Creative Experiences II
CP1501	Business & E-Commerce		EE1440	Family Studies I
CP1505	Designing Effective E-Commerce Site		EE1441	Family Studies II
CP1560	Data Management		EE1480	Inclusion I
CP1570	Networking for Programmers		EE1481	Inclusion II
CP1580	Using Internet APIs		EE1870	Community Resources
CP1855	Intro. to Programming with Python		EE2180	Curriculum III
CP1895	Advanced Python Programming		EE2255	Advanced Behavior Guidance
CP2010	Frameworks		EE2260	Introduction to Child Care Administration
CP2020	AWS Cloud Development		EE2340	Child Development III
CP2070	Social Media Management		EE2350	Professional Practice
CP2075	Digital Analytics		EE2470	Infant Development and Care
CP2080	Salesforce Development		EE2500	School-Age Development and Care
CP2085	Orientation to EWeb Work Exposure		EE3010	Leadership
CP2110	Advanced Electronic Spreadsheets		EE3015	Relationship Building
CP2130	Fundamentals of Programming II		EE3020	Culture & Diversity
CP2205	Advanced PHP Laravel		EE3025	Mentoring in ECE

EE3030	Governance in ECE	HB2200	HIS Systems Analysis
EE3035	Financial Management in ECE	HB2220	Leadership for HI Professionals
EE3040	Human Resources in ECE	HB2260	Health Informatics Capstone
EE3045	Conflict Resolution	HG1680	Ethics in Health Care
EE3050	Current & Emerging Trends	HN1100	Industrial Relations
EE3055	Reflective Practice in ECE	HN1200	Human Resource Management
EN3200	Environmental Impact Assessment	HN1230	Human Resource Management I
EN3300	Environmental Auditing	HN1240	Human Resource Management II
EP1100	Entrepreneurial Studies	HN1400	Occupational Health and Safety
EP1110	Introduction to Business	HN2100	Collective Agreement Administration
EP1130	Business for Information Systems	HN2110	Dispute Settlement
EP2130	Business Principles and Practices for IM	HN2130	Recruitment and Selection
EP2150	Entrepreneurship	HN2140	Attendance and Disability Management
EP2200	Business Planning	HN2150	Training and Development
EP2250	Small Business Development	HN2200	Strategic Compensation and Benefits
EP2400	Business Solutions	HN2210	Human Resource Planning
FH1340	Health and Safety	HN3110	Current Topics in Human Resource Management
FH1360	Childhood Nutrition	HR1300	Communications and Human Relations
FH1500	Personal Wellness	HS1131	Dining Room Operations
FN1140	Introduction to Finance	HS1340	Bar & Beverage Operations
FN2110	Business Finance	HS1740	Hotel Operations
FW1130	Field Placement I	HY1120	Prehistory to Renaissance
FW1320	Field Placement (Post Diploma)	HY1130	Renaissance to 20th Century
FW1600	Field Placement I	JL1110	Reporting & New Writing I
FW1601	Field Placement II	JL1120	Reporting & New Writing II
FW2600	Field Placement III	JL1130	Audio Storytelling
FW2601	Field Placement IV	JL1160	Video Storytelling
GD1120	Storytelling in Games I	JL1420	Journalism Ethics & the Law
GD1130	Game Design Theory	JL1581	Online Journalism
GD1140	Serious Game Theory	JL1850	News Production I (Post Dip)
GD1150	Game & Level Design I	JL1851	News Production II (Post Dip)
GD1160	Art for Games I	JL2120	Reporting & News Writing III
GD1170	Sound Design for Games	LW1210	Labour and Employment Law
GD1180	Game Industry Professionalism	LW1230	Business Law
GD1600	Business of Game Development	LW1280	Information Management Law
GD2110	Game & Level Design II	LX1000	Digital Imaging I: Capture, Display and Archiving
GD2120	Art for Games II	LX1010	Apparatus & Accessories
GD2130	Storytelling in Games II	LX1020	Radiographic Anatomy & Pathology
GD2140	Game & Level Design III	LX1030	Radiobiology & Protection
GD2150	Art for Games III	LX1040	Digital Imaging II: Quality Management
GD2160	QA & Playtesting for Games	LX1050	Radiographic Technique
GD3100	Game & Level Design IV	LX2000	Clinical I
GD3110	Art for Games IV	MA1040	Math Fundamentals I
GD3120	3D Game Character Design	MA1041	Math Fundamentals II
GD3130	Visual Narrative for Games	MA1100	Mathematics
GD3140	Game & Level Design V	MA1160	Practical Mathematics
GD3150	Interactive Storytelling	MA1670	Statistics
GD3160	Portfolio for the Game Industry	MA1900	Problem Solving for Information Technology
GD3170	Art for Games V	MC1062	Computer Essentials
GD3180	Game Design Capstone Project	MC1140	Digital Literacy in the Workplace
HB1100	Introduction to Health Informatics	MC1240	Computer Applications I
HB1130	Health Delivery Systems I	MC1242	Computer Applications II
HB1131	Health Delivery Systems II	MC1850	Spreadsheet Applications
HB1170	Medical Process Terminology	MN2600	Strategic Management
HB1200	Health Information Networking	MN3100	Business Ethics
HB1240	Data Management	MN3200	Performance Management
HB1300	Research and Data in Health Care	MR1100	Marketing I
HB1350	Data Quality and Risk Management	MR1270	Customer Service
HB1400	Public Health, Population Health & Epidemiology	MR1500	Consumer Behaviour
HB2100	Management Health Information	MR1600	Professional Selling
HB2160	Records Management for HI Professionals	MR2100	Marketing II

MR2200 Retailing
MR2300 Business Research
MR2350 E-Business
MR2400 Marketing Communications
NC1747 Medical Terminology
NC1888 Introduction to Cultural Tourism
NC2489 The Business of Food
OF1100 Office Management I
OF1101 Office Management II
OF1105 Personal and Career Growth
OF1305 Digital Tools for the Office
OF2100 Career Planning Strategies
OF2101 Office Simulation
OF2300 MCP Billing
OF2400 Medical Office Management I
OF2401 Medical Office Management II
OF2700 Career Readiness
OJ1100 Work Exposure - BA Certificate (2 wks)
OJ1130 Work Exposure - OA Certificate (2 wks)
OJ1550 Work Exposure - BA HRM (6 wks)
OJ1560 Work Exposure - BA Marketing (6 wks)
OJ1580 Work Exposure - BA Accounting (6 wks)
OJ1590 Work Exposure - BA General (6 wks)
OJ1900 Work Exposure - Executive Office Management (6 wks)
OJ1920 Work Exposure - Medical (6 wks)
OJ1930 Work Exposure - Records & Information
        Management (6 wks)
OJ3106 EWeb Work Exposure (7 wks)
OP1320 Classification
OP1400 Records & Information Management I
OP1401 Records & Information Management II
OP1600 Electronic Records Management
PD1120 Portfolio Development I
PD1125 Portfolio Development II
PD1130 E-Portfolio
PD1135 Portfolio & Exhibition
PH1050 Introductory Physics I
PH1051 Introductory Physics II
PH1070 X-Ray Skills Physics
PH1100 Physics
PH1101 Physics
PR1100 Website Project I
PR1101 Website Project II
PR2170 Project Management
PR2330 Project Management for HIS
PR2700 Project Management
PR3000 Applied E-Commerce Website Project
PS1130 Psychology I
PS1150 Introduction to Psychology I
PS1151 Introduction to Psychology II
PS1420 Health Care Organization & Structure
PS2340 Organizational Behaviour
PY1150 Photography
PY1330 News Photography I
PY1331 News Photography II
RP1100 Introduction to Records Management
RP1101 Management and Control of Records
RP1200 Archives Principles
RP1205 Document Management Systems & Records Control
RP1300 Active and Semi-active Records

RP1301 Document Control Processes
RP1400 Information Security and Procedures
RP2200 Classification Systems
SC1120 Introduction to Sociology
SC1150 Principles of Sociology
SC1160 Sociology of Families
SD1230 Career Exploration
SD1570 Effective Learning
SD1580 Critical Thinking across the Curriculum
SD1761 Workplace Essentials
ST2120 Painting I
TA1141 Orientation to Rehabilitation
TA1231 Human Movement and Kinesiology
TA1390 Anatomy and Physiology
TA1511 Introduction to Gerontology
TA1601 Introduction to Clinical Skills
TA1610 Clinical Orientation Placement
TA1612 Advanced Clinical Skills
TA1701 Clinical Placement I
TA2140 Disease, Injury and Intervention I
TA2141 Disease, Injury and Intervention II
TA2221 Communication Disorders in Rehabilitation
TA2521 Mental Health Concepts and Techniques
TA2615 Therapeutic Skills II for   Rehabilitation Assistant
        (OTA/PTA)
TA2671 Therapeutic Skills I for OTA
TA2685 Therapeutic Skills I for PTA
TA2741 Clinical Placement II for OTA
TA2751 Clinical Placement II for PTA
TA2710 Clinical Placement III for the Rehabilitation Assistant
        (OTA/PTA)
TB1000 Marketing and Sales
TB1010 Operations Management
TB1020 Business Planning
TB1030 Human Resource Management
TB1040 Financial Management
TM1100 Medical Terminology I
TM1130 Medical Terminology
TM2100 Medical Terminology II
TR1100 Tourism & the Arts
TR1110 Tourism & Technology
TR1120 Professional Certifications I
TR1600 Newfoundland and Labrador Tourism Destinations
TR1610 Introduction to Tourism & Hospitality
VA1110 Drawing Methods & Media
VA1115 2D Design
VA1120 Digital Imaging
VA1140 Figure Drawing
VA1170 3D Design
VA1180 Time-based Media
VA1185 Studio Practice
VA1190 Drawing Studio
VA1400 Colour Theory

Carpenter (Levels 1, 2, 3 & 4)

Construction/Industrial Electrician (Levels 1, 2 & 3)

Plumber (Levels 1, 2 & 3)

Welder (Levels 1, 2 & 3)

INTERNATIONAL STUDENTS

College of the North Atlantic welcomes students from all parts of the world. International students are attracted by the College's high quality education, reasonable costs, safe and friendly living environment, student support services, and the acceptability and transferability of its certificates and diplomas. College of the North Atlantic places a high value on the contribution that international students make towards the development of intercultural communications and understanding throughout the College and the community.

Application Procedure
1. International applicants must submit an online application form. Once submitted, the College will make contact with applicants. Be prepared to submit the following items after contact is made:
    a. Proof of English proficiency;
    b. Official academic transcripts issued directly from the originating institution;
    c. Notarized, certified copies of academic transcripts will be accepted from any of the College's approved agents; and
    d. Official transcripts or degree certificates issued in languages other than English must be translated into English and submitted to College of the North Atlantic along with the original official documents. An official translation is an exact English translation of your academic documents that has been prepared by the issuing institution or a professional translator.
2. The application will be reviewed for eligibility and, if accepted, a Letter of Acceptance will be issued to the student. Information confirming fees, enrolment, program of study, and length of program will accompany the Letter of Acceptance.
3. Upon receipt of a Letter of Acceptance, the confirmation fee and tuition for the first semester of the program of studies is due to the College within two (2) weeks. In the event that a student visa is not awarded by the Canadian Embassy and the student provides a letter and evidence to support this claim, the tuition will be refunded in full. The application fee and confirmation fee are not refundable.
4. International applicants who plan to study in Canada should take their letter of acceptance to the nearest Canadian Embassy, High Commission, or Consulate to apply for a Student Study Permit. An immigration officer will then provide the applicant with an information package about the documents that are necessary to process a student study permit. Information about Application to Study in Canada, Study Permits can be found at https://www.canada.ca/_en/immigration-refugees-citizen_ship/services/study-canada/study-permit.html.
    Generally, applicants will need:
    • Documentation verifying personal identification (such as a passport);
    • An original Letter of Acceptance;
    • Proof of funds available to cover tuition and living expenses; and
    • Assurance that the student will return to his/her country of residence.
    International applicants who plan to remain in their home country while completing their program at College of the North Atlantic (i.e. Distributed Learning Online Programs) are not required to obtain a Student Study Permit or travel to Canada.
5. Once an applicant has been issued a Student Study Permit from the Canadian Diplomatic Mission, they should advise the College and make arrangements to travel to Canada and begin their program at College of the North Atlantic.

English Proficiency
As per AC-102-PR, 5.2, all international applicants must meet the College's English language proficiency requirements for acceptance into regular programs.

If English is not an applicant's first language, or if their previous education was in a language other than English, applicants may be required to demonstrate proficiency in English by completing and submitting the results of ONE of the following evaluation methods:

CAEL	60
TOEFL	paper based 550
TOEFL	Internet based 79
TOEFL	computer based 213 or equivalent
IELTS	Academic Test overall band score of 6.0
MELAB	minimum 78
DUOLINGO	105-110 (for 2020-2021 academic year only)
PTE	Academic Test minimum 53

If a language proficiency test other than those referenced above was used, applicants can forward the results for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

For admission purposes, some programs may require specific English language requirements and proficiency scores that differ from those stated above. Applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Academic Prerequisites

As per AC-102-PR, 5.3, admission requirements for each program are set out in the program description. For most programs, the admission requirement is graduation from high school with overall high school average of 60% or better in the Canadian system. Certain programs require achievement in specific subject areas, such as English, Mathematics, Biology, Chemistry or Physics. Applicants from British-oriented educational systems should present the General Certificate in Secondary Education. All applicants should submit the most recent official high school transcript of marks that will be assessed on an individual basis. Those applicants who have completed advanced courses in Mathematics and Sciences may be eligible to receive advanced standing for those courses.

International Health Insurance Plan

Registered international students of College of the North Atlantic are required to have medical coverage as per our College policy. If a student wishes to opt out of the plan, he/she must provide proof of coverage of a similar health insurance plan to the International Student Coordinator on or before the first day of classes. Please refer to the Student Health/Dental section of the College Calendar for further details.

Health Insurance: Newfoundland and Labrador's Medical Care Plan

As per AC-102-PR, 5.4, international students undertaking full time post-secondary studies in Newfoundland and Labrador may be eligible for MCP coverage. A detailed explanation of MCP services can be found on the Provincial Government website at http://www.health.gov.nl.ca/health/mcp/international.html.

The Medical Care Plan (MCP) program applies to any foreign individual issued an official study permit by Citizenship and Immigration Canada before entering the country. The individual must be attending a recognized post-secondary educational institution in Newfoundland and Labrador for a period of at least 12 months. Dependents of the student will also be covered under MCP, provided they are living in the province and have relevant documentation to support their application.

In order to receive coverage, international students must apply for and receive a MCP card. The Medical Care Plan (MCP) application form can be found at http://www.health.gov.nl.ca/health/forms/index.html#3. Coverage becomes effective for eligible students and dependents on the later of the date of enrollment in a full time post-secondary program or arrival in the province. Eligible students must present a letter of enrollment from the educational institution at the time of registration. Coverage must be renewed annually at which time a current letter of enrollment must be provided. Coverage terminates upon completion of the study program; termination from the study program; or the date of permanent departure from the province, whichever is earlier. Students must be attending school and residing in the province in order to avail of coverage.

Coverage is available for services listed under the Medical Care Insured Services Regulations and the Hospital Insurance Plan Regulations. Health insurance for other services (i.e. coverage of prescription drugs) may be available for international students with MCP cards to purchase through the College or other health insurance companies. Proof of coverage equivalent to Canadian coverage must be received prior to the start of classes if a student is opting out of the College insurance plan.

Registered students of College of the North Atlantic are covered under an accident insurance plan. This DOES NOT provide routine medical coverage for students.

International students temporarily leaving the province for vacation or other purposes may qualify for out-of-province coverage for up to 182 days in any 365-day period. The residency requirement for international student beneficiaries must be satisfied in each subsequent 365 day period in order to receive future out-of-province coverage. In order to ensure out of province coverage, international students must apply for and receive an Out-of-Province Coverage Certificate prior to leaving the province, for which the application can be found at http://www.health.gov.nl.ca/health/mcp/forms/oop_rqst.pdf.

Proof of Status

International students must provide proof of status in Canada on or before the first day of classes.

Student Services

Student Services, in cooperation with the International Office, will assist international students in such areas as: providing local accommodations listings; orientation and general information. The full range of student services as outlined in the College Calendar will be made available to international students.

Student Services / On-Campus Facilities

The Student Services division provides personal and academic counseling to all students of the College. Student tutoring and other learning resources are also available. The Student Council organizes various events/activities for students throughout the year.

During the first week of classes, international students will be advised who the 'main point of contact' will be who will provide on-campus assistance to them. Below is a list of services that may be provided:

- Assistance on Accommodation Search
- Orientation
- Monthly international events

All students at College of the North Atlantic have free access to the internet and a variety of software, accessible through the College's many networked computers.

Fees and Costs

All amounts are in Canadian Dollars and all fees must be paid in Canadian Dollars. Fees are subject to change. Please refer to the College website for the most up-to-date fees.

Regular Academic Studies
Application Fee:

Non-refundable (must accompany application)	CAD $100.00

Tuition Fees:
Regular-Full-time programs

Fall or Winter Semester (15 week semester)	CAD $3300.00
Intersession (7 week semester)	CAD $1650.0
Out of sequence programs (per week)	CAD $220.00 (and prorated equipment/materials fees)
Trades (per week)	CAD $220.00 (and prorated equipment/materials fees)
In-class course - Part-time students (per course)	CAD $825.00
DL courses (per course)	CAD $825.00 (plus Technology Fee)
DL technology fee for in-province students (per course)	CAD $50.00
DL technology fee for out-of-province students (per course)	CAD $100.00
Co-op work term (per semester, 12-16 weeks)	CAD $1650.00
On the Job Training (per week)	CAD $220.00
Equipment/Materials	CAD $65.00 - $660.00

(varies from program to program; some exceptions may apply)

In general, for most programs one academic year consists of two 15-week semesters and one 7-week semester. For some programs, an academic year consists of three 15-week semesters.   See program description in the College Calendar for details.

Confirmation Fee:

All Programs (per academic year, September to August)	CAD $98.00 (non-refundable)

Other Costs (Note: these are estimates of expenses, not exact figures)

Textbooks (per semester)	CAD $ 500.00 – $1000.00
Health Insurance (per year)	CAD $ 500.00 – $550.00

Schedule of Payments

- **Application Fee** ($100.00) must accompany application form
- **Confirmation Fee** ($98.00) due within two (2) weeks of date of Letter of Acceptance
- **First semester tuition** ($3300.00) due within two (2) weeks of date of Letter of Acceptance
- **Tuition and Equipment/Materials** are paid at the beginning of each semester
- **Health Insurance** must be purchased before or upon arrival in Canada

Acceptable Method of Payments

Payment for on-line applications is by credit card only (Visa or Mastercard).

Once an applicant is accepted into a program, payment of confirmation fee, tuition and/or any other fees can be made by credit card through student self-service or wire transfer into the College's account.

Refunds

The following outlines the international eligibility for tuition refund:

- **Application fee and Confirmation fee are non-refundable**.
- In the event a student has paid tuition fees in advance and he/she is not granted a visa by the Canadian Embassy and cannot attend the College as a result, any tuition paid will be fully refunded. If the student has registered and attended classes prior to this notification, the student will be liable for a pro-rated tuition and equipment and materials fee for the weeks attended
- Please refer to Section 3.0 (i. to iv) in the Fees & Charges section for information regarding refunds. Please note that due to banking regulations, which are beyond our control, wire refunds can only be made in US dollars.

Scholarships

The College does not offer scholarships or bursaries to international students upon admission. Once a student is enrolled at the College, he or she may be eligible to apply for a scholarship or bursary. Eligibility for the College's scholarships and bursaries is usually determined by the student's academic performance.

Living Expenses

An average monthly estimate of living expenses (not exact figure):

Housing:	$700.00 – $900.00
Meals:	$250.00 – $300.00
Transportation:	$70.00 – $100.00
Total Estimate	$1300.00

Residence

The College maintains residence facilities at the Bay St. George, Burin and Happy Valley-Goose Bay campuses. Fees for room and board at the residences range between $350.00 and $650.00 per month with meal plans being mandatory. Please refer to Fees & Charges section of the Calendar for rates. Students wishing to apply for residence should apply directly to the Residence Office of the appropriate campus.

Off-Campus Housing

Newfoundland and Labrador also has many off-campus housing options including renting a single room in an apartment or house, rental apartments, rental houses, and boarding houses (which often include meals). There may be apartments within walking distance of the College and a public bus service is available only in the greater St. John's region and the Corner Brook region. Students who would like to live off-campus can contact the campus International Student Contact for information regarding off-campus housing options. Depending on the type of accommodation and location, the cost of off-campus housing can range from $700.00 - $900.00 and up.

Students attending College of the North Atlantic in St. John's can apply to stay at Memorial University residence by calling +1-709-737-7590. Students attending College of the North Atlantic in Corner Brook can apply to stay at Grenfell residence by calling +1-709-637-6266.

INTERNATIONAL CONTRACTS

Economic development is strongly linked to the presence of an effective and responsive education system and the establishment of an educated and trained workforce. College of the North Atlantic embodies the concept of education-industry interface through the development of partnerships, tailor-made training, technical assistance and consultancies around the world to promote labour market renewal and develop relevant professional and skills training programs.

International Contract Training

College of the North Atlantic develops tailor-made training programs to meet the needs of businesses and organizations worldwide. Customized training can vary in duration from a one-day session to programs of several months. We pride ourselves in responding quickly and accurately to clients' needs.

College of the North Atlantic's instructional and support staff have the expertise to ensure quality programs and services. Training expertise at College of the North Atlantic exists in a wide range of sectors:

- Petroleum/Oil & Gas
- Safety & Construction
- Tourism & Hospitality
- Health Sciences
- Engineering Technology
- Industrial Trades
- Business
- Information Technology
- Management & Leadership
- Distance Learning Systems
- Natural Resources
- Curriculum Development
- TVET reform

International Partnerships

College of the North Atlantic works in partnership with educational institutions in joint delivery of programs, training needs assessment, curriculum and program development, teacher training, and other areas of educational cooperation. We have an excellent track record in working with partner institutes and organizations.

In 2001, College of the North Atlantic was chosen by the State of Qatar as its partner in the creation of a world-class technological institute. College of the North Atlantic - Qatar is growing steadily towards a student population of 6000, with 22 custom-designed buildings, state-of-the-art facilities and computer systems, classrooms, laboratories, industrial workshops and a comprehensive range of programs and student services.

International Consultancies and Technical Assistance

The College has extensive experience and proven success in sharing best practices and processes in both the administrative and pedagogical aspects of technical/vocational education. College of the North Atlantic has provided technical support and consultancy services to projects operated by private companies, governments, non-government organizations and development agencies such as the World Bank, the International Development Research Centre, Global Affairs Canada and Colleges and Institutes Canada.

Geographic Experience

In the past decade alone, College of the North Atlantic has worked with clients in Libya, Lebanon, Yemen, Qatar, West Bank/Gaza, Jordan, Egypt, Peru, Argentina, Chile, Jamaica, Barbados, the Caribbean, Tanzania, Vietnam, Malaysia, Latvia, Lithuania, Russia, India, Pakistan, Thailand, Guyana, Antigua, China and Kenya.

For additional information regarding custom-designed training, partnerships, and other international business initiatives contact:

Associate Vice-President, International
College of the North Atlantic
1 Prince Philip Drive
P. O. Box 1693
St. John's, NL
Canada A1C 5P7
tel: +1 709 758-7261
fax: +1 709 758-7222
web: www.cna.nl.ca

PARTNERSHIPS & INNOVATION

The Division of Partnerships & Innovation (PI) encompasses the effective development, management and delivery of local, provincial, and national projects. This line of business is inclusive of community and business partnership development, community and industry workforce training delivery, college philanthropic activities, alumni relations and applied research and innovation. Clients are individual students, industry and community partners, and government departments and agencies.

The Office of Partnerships, Entrepreneurship and Community Engagement (PECE) works in tandem with various college departments to forge strategies and initiatives in partnership with municipalities, Indigenous groups, educational institutions, and entrepreneurial associations to deliver enhanced services to our students, business and communities.

The Office of Applied Research and Innovation (OARI) is CNA's link to innovation support for industry, businesses, the community sector and other key partners throughout Newfoundland and Labrador. The OARI has worked with hundreds of industry and community partners in the province, ranging from early stage start-ups and non-profit organizations to multi-national corporations.

OARI's focus is on collaboration with our partners to explore problems, opportunities and ideas, and to develop innovative solutions. OARI provides a range of services to our partners from problem exploration and scoping, proposal development and team member identification to project administration, human resource funding, report writing and closeout.

The office oversees the administration of externally funded projects, including CNA's **College Innovation Network (CIN),** which links the College's technical and subject matter experts to industry and community partners to support their innovation needs. By leveraging the College's faculty expertise and subject matter experts and extensive labs, shops and equipment, OARI creates innovative applied solutions for businesses in the province and creates unique Work-Integrated Learning (WIL) opportunities for our students across all program areas.

Customized and Continuous Learning (CCL) facilitates life-long learning for its many audiences and partners, including government, communities, industry associations, private businesses, and individuals. CCL delivers credit and non-credit programming, through customized and flexible content, delivery methods and locations.

CCL's team of Business Development Officers and Coordinators proactively identifies gaps in the labour supply for emerging and changing economic sectors and develops and delivers relevant training to link individuals to employment. Active in community growth, and in collaboration with local development associations, CCL brings short-term courses and longer-term programming to rural and Indigenous communities.

Another core function of the office is to provide service to individuals who may have barriers to education and employment. CCL works with the College's five schools of study and government partners who are committed to creating new pathways to education and meaningful employment by developing innovative academic solutions for under-represented groups.

CCL's team responds to specific industry requests by working with businesses to identify and address training and development opportunities for staff, leading to increased staff morale, productivity, and ultimately, a healthier bottom line.

Through its Continuing Education activity, CCL also offers opportunities for personal and professional development, along with a variety of general interest programming. Personal development programming offers opportunities for learners to engage in a selection of training that develops skills and confidence, leading to increased opportunities for new challenges and increased responsibilities in the workplace. Professional development also includes safety, regulatory and sector-specific certifications.

The NL Workforce Innovation Centre (NLWIC), administered by CNA has a provincial mandate to provide a coordinated, central point of access to engage all labour market stakeholders about challenges, opportunities and best practices in workforce development. The Centre's goal is to promote and support the research, testing and sharing of ideas and models of innovation in workforce development that will positively impact employability, employment, and entrepreneurship within the province's labour market and particularly under-represented groups. Funding is provided by the Department of Immigration, Population Growth and Skills under the Canada-Newfoundland and Labrador Labour Market Development Agreement.

College of the North Atlantic – Qatar (CNA-Q) is the most significant development to date in CNA's expanding international role. Established in 2001, CNA-Q is a comprehensive college of technology in the State of Qatar in the Arabian Gulf. The largest Canadian educational institution operating overseas, CNA-Q is the State of Qatar's premier institute of applied learning, and delivers CNA's internationally recognized and accredited programming to the Middle East.

CNA's **Alumni and Advancement Office** has a dual mandate to create and nurture partnerships to connect alumni and the college with opportunities.

The office works to create an enduring connected community of graduates while building awareness, pride, opportunities for engagement, and volunteerism.

Through our advancement role we strive to upon the philanthropic pledges of our vast alumni network while working closely with industry and community stakeholders. The result is the creation of benefits to our students through scholarships and awards as well as various other giving programs that carry over to alumni.

CUSTOMIZED AND CONTINUOUS LEARNING

Customized Training – On-Site, On-Campus, Anytime

Customized training is developed and/or delivered to meet the needs of today's workforce. College of the North Atlantic's Customized and Continuous Learning division develops training solutions for business, corporations, governments, individuals and communities from an extensive list of more than 100 full-time diploma and certificate programs and a comprehensive range of over 300 part-time courses. Its services are distributed throughout the province, with a Business Development team available to meet your training needs.

Curriculum is custom designed to meet your specific training goals with a delivery timetable suited to your needs. From a one-day session to programs of several weeks, we deliver anytime, on-site or off-site with the appropriate training infrastructure and resources. Call 1.888.982.2268 or visit https://www.cna.nl.ca/business-and-industry/Corporate-Training.aspx for more information or to speak directly with one of our Customized and Continuous Learning professionals.

Other Services to Help You Succeed
- Custom design curriculum / program development
- Training needs analysis
- Workplace essential skills assessments

Training for Industry Sectors

Organizations in all industry sectors throughout the province need access to training programs so they can remain competitive, recruit and retain employees, diversify, and sustainably develop their long-term potential in Newfoundland and Labrador.

Business & Information Technology

Information technology has significantly changed business models, operations, products and services, and the competitive environment of small and medium-sized businesses in all industry sectors as well as the public and community sectors. In order to remain competitive, employers and employees need access to quality training. CNA provides comprehensive support to the business & information technology sector.

Construction Sector

According to the Construction Sector Council (CSC), our future depends on the construction and manufacturing sectors to build, repair, and maintain our homes and buildings, our roads and bridges, and the oil refineries and other infrastructure that fuel community progress. CNA provides comprehensive support to the construction and manufacturing sectors. Training addresses the needs of a variety of employers – general contractors, builders, construction managers and specialty trade contractors – in new home building and renovation, heavy industrial, institutional and commercial, and civil engineering subsectors.

Energy

New technologies and the changing demands of consumers, government and other stakeholders have significantly transformed the energy sector. Regulations have evolved. Exploration, development and production methods are more advanced. CNA provides comprehensive support to the oil and gas, hydroelectric and renewable energy industries. We are committed to providing the same support to renewable energy including wind and geothermal sources.

Health

Health care providers-business, government, professionals, researchers, and community organizations-along with the clients and communities they serve are challenged to meet or exceed the standards services for institutional health care management, decision making, quality, innovation, program delivery, and accountability set by government's vision that "… all Newfoundlanders and Labradoreans will enjoy optional health." College of the North Atlantic provides comprehensive support to health sector professional staff/technicians and management.

Mining

College of the North Atlantic is committed to providing comprehensive support to the mining sector in both surface and underground mining. Training addresses the unique needs of the sector during the exploration, development, production, processing and distribution stages. CNA's training capabilities include training for occupations related to: prospecting, leadership, management and supervisory development, automation, environment, health and safety certifications, installation, maintenance and repair; construction and extraction; production; and transportation and material moving.

Safety Training

Businesses are required by law to meet the Occupational Health and Safety standards of the workplace. Safety training and certification is essential to ensure a healthy and productive workplace. In order to remain competitive, employers and employees need access to quality training. CNA is committed to providing comprehensive support to all the provinces' sectors with quality safety training. CNA is an approved Workplace-NL provider of Fall Protection, Fall Protection Recertification, Occupational Health and Safety, Traffic Control Person, Powerline Hazards and Confined Space Entry training.

Training for Government
College of the North Atlantic is pleased to provide a range of training courses and programs to provincial, federal, and municipal government departments to support changing technologies, client and service needs and professional development from any of our 17 campuses.

Training for Individuals and Community Organizations
Individuals and community organizations in towns and communities across the province comprise a significant number of student registrations for customized training and continuous learning. These students are seeking to upgrade skills for current employment, explore new careers, and complete a range of programs to compete for jobs in Newfoundland and Labrador's industry and other sectors.

Please refer to the Fees and Charges section of the Calendar for refund information pertaining to Customized and Continuous Learning.

To Inquire About Customized Training, Contact Us

Call Toll Free: 1.888.982.2268
Email: corporatetraining@cna.nl.ca
Website: https://www.cna.nl.ca/business-and-industry/Corporate-Training.aspx

Customized and Continuous Learning Contacts:

Baie Verte Campus
P: 709/532-8066
F: 709/532-4624

Corner Brook Campus
P: 709/637-8570
F: 709/634-2126

Placentia Campus
P: 709/2276281
F: 709/227-7185

Bay St. George Campus
P: 709/643-7825
F: 709/643-7748

Gander Campus
P: 709/651-4804
F: 709/651-3376

Port aux Basques Campus
P: 709/6953582
F: 709/69-2963

Bonavista Campus
P: 709/468-1700
F: 709/468-2004

Grand Falls-Windsor Campus
P: 709/292-5642
F: 709/489-4180

Prince Philip Drive Campus
P: 709/758-7259
F: 709/758-7297

Burin Campus
P: 709/891-5606
F: 709/891-2256

Happy Valley-Goose Bay Campus
P: 709/896-6316
F: 709/89-3733

Ridge Road Campus
P: 709/758-7554
F: 709/758-7059

Carbonear Campus
P: 709/596-8957
F: 709/596-2688

Labrador West Campus
P: 709/944-6908
F: 709/944-5413

Seal Cove Campus
P: 709/744-6845
F: 709/744-3929

Clarenville Campus
P: 709/466-6947
F: 709/466-2771

CONTINUOUS EDUCATION

Professional and Personal Development Opportunities
For those who want to increase their chances of getting a job, upgrade their skills to advance in their present career, maintain their certification, or are interested in pursuing a personal interest, College of the North Atlantic offers a vast array of continuous learning courses and certificate programs in many campus locations throughout the province.

Certificate Programs
Continuous Learning certificate programs are offered on a part-time basis through evening, daytime, online, or a blend of online and face to face instruction. Students enrolling in a certificate program have the convenience of studying part-time while maintaining current employment.

Certificate programs and professional development courses available include:
- Conservation Law Enforcement Training
- Exam Sessions (Real Estate / LLQP / RIBO)
- Maintenance Management Professional (offered in partnership with Plant Engineering and Maintenance Association of Canada)
- Marine Front Line Hospitality
- Medical-Related Training
    - Applied Cardiac Life Support (ACLS)
    - Cardiology Review and Altered Sensorium
    - Drug Calculations for the Paramedic
    - ECG Rhythm Strip Review
    - Emergency Medical Dispatch (EMD)
    - Emergency Medical Responder (EMR)
    - Femoral Traction Splint for Open Femur Fracture
    - IV Therapy Recertification
    - IV Therapy Testing Challenge (for out-of-province entrants)
    - IV Therapy Testing Challenge (for in-province entrants)
    - Medical Device Reprocessing Technician (MDRT)
    - Primary Care Paramedicine (PCP) Refresher
- Project Management Certificate Program
- Security Services
- Supervisory / Management / Leadership Development

Customized Workforce Development programs
The College is equipped to design and deliver shorter term non-credit programs that are customized to address unique regional training needs and skills shortages for jobs in growing fields.

Leadership, Management and Supervisory Skills Training
Major demographic shifts in population are occurring in our province and in the rest of Canada, resulting in labour shortages, including administration and management positions. We must plan for that shortage now by training our existing workforce in leadership, management and supervisory skills.

Personal Interest Courses
Whether you want to learn a foreign language, or you want to make a gourmet dish, Customized and Continuous Learning offers many personal interest courses to suit your needs:
- Arts and Crafts
- Cooking / Baking
- Firearms Safety Courses
- Language Training
- Matting and Framing
- Photography
- Welder Testing (CWB)
- Welding Courses
- Yoga

For a list of course descriptions and schedule information, visit our Customized and Continuous Learning website at https://www.cna.nl.ca/programs-courses/Continuing-Education.aspx and check out a campus near you. If our schedule of courses does not meet your timeframe, we can work with your business to schedule timeslots that are convenient through our customized training options.

Please refer to the Fees and Charges section of the Calendar for refund information pertaining to Customized and Continuous Learning.

To Inquire About Customized and Continuous Learning, Contact Us

Call Toll Free: 1.888.982.2268
Email: corporatetraining@cna.nl.ca
website: www.cna.nl.ca

ALUMNI & ADVANCEMENT

The Alumni and Advancement Office has a twofold mandate supporting College of the North Atlantic: to foster a climate which creates and nurtures partnerships for the college – allowing for first-rate education opportunities for its students; and to provide an opportunity for all Alumni to connect with the college and with one another.

Advancement

Advancement activities within the College play a pivotal role in engaging community and corporate supporters. Financial support allows for the continuous growth of the College, and through scholarships and bursaries ensures that students have access to high quality education, state of the art equipment and excellent career opportunities. Support for our advancement goals occurs through corporate and private donations and through our internal donations.

Alumni

College of the North Atlantic Alumni are those individuals who have graduated from an approved diploma or certificate program at CNA or one of its predecessor institutions.

The College has always felt a sense of responsibility, pride and interest in the lives of its graduates. With the development of an Alumni Office, our alumni have a lifelong connection to the College. This connection in turn encourages our many alumni worldwide to continue to support College of the North Atlantic and its students.

The Alumni and Advancement Office prides itself on providing key benefits to both former and current students.

Services and Benefits for Registered Alumni

- Discounts from our select partners such as TD Insurance (Home and Auto)
- Opportunities to stay connected or to re-connect with the College, former teachers, classmates and friends through social media outlets and local events
- Continuous Learning opportunities
- Free access to campus libraries
- Career employment services
- Alumni Spirit Days
- Contests
- Mentoring Opportunities (10K Coffees platform)
- Graduation Services such as photography, diploma/certificate frames, flowers and alumni pins
- CNA Giving Programs

Benefits for Students

- Student scholarships, bursaries and awards are a key part of our office's activities. By securing corporate and community support, we encourage and support the development of our students.
- We build connections between students and alumni which facilitates career guidance or mentorships between these two groups.
- Students can be confident in knowing that the relationships they are forming as students will continue beyond graduation
- Orientation and Event Support

To learn more about these benefits or to become involved contact:
Alumni and Advancement Office
College of the North Atlantic
1 Prince Philip Drive
P. O. Box 1693
St. John's NL A1C 5P7
tel: 709 758-7536 or 709 758-7515
email: alumni@cna.nl.ca

Stay Connected!

Visit: www.cna.nl.ca/alumni

School of Academics, Applied Arts and Tourism

Aboriginal Bridging
CERTIFICATE
• **One Year**
• **September**
• **Happy Valley-Goose Bay Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
CM1010	Communications I for Aboriginal Students	5	5	0
MA1010	Mathematics I for Aboriginal Students	4	4	1
BL1060	Biology for Aboriginal Students	4	4	1
AH1060	Personal Skills Development I	4	4	0
MC1080	Introduction to Computers	2	2	0
Semester 2		**Cr**	**Le**	**La**
CM1011	Communications II for Aboriginal Students	5	5	0
MA1011	Mathematics II for Aboriginal Students	4	4	1
CH1060	Chemistry for Aboriginal Students	4	4	1
SD1230	Career Exploration	4	4	0
AH1010	Aboriginal Health Initiatives	3	3	0
AH1061	Personal Skills Development II	3	3	0
Semester 3		**Cr**	**Le**	**La**
CM1012	Communications III for Aboriginal Students	4	4	0
MA1012	Mathematics III for Aboriginal Students	4	4	0
PH1060	Physics for Aboriginal Students	3	3	1

This program is designed to "bridge the educational gaps" in the lives of Aboriginal students, enabling them to succeed in subsequent college programs of study. The Aboriginal Bridging program is, moreover, a valuable academic "refresher" for mature students returning to school for training, or to the workforce after a prolonged period of absence. Students enrolling in this program will receive instruction in reading comprehension, writing, numeracy, public speaking, researching, scientific experimentation, personal awareness, study skills, time management, and critical thinking.

In addition to academic courses in Communications, Mathematics and Science, the Aboriginal Bridging program also recognizes that personal skills training is often as important to success as academic studies, and that cultural supports are a necessary component for Aboriginal students entering post-secondary environments. Culturally relevant materials are therefore utilized to form a curriculum designed specifically for First Nations, Inuit, and Métis students. Elder and community participation will be incorporated into the classroom, and career and computer skills courses, as well as personal development and health and wellness training, will be offered as complements to the academics. Students will receive instruction in nutrition, for example, as well as stress management, healthy relationships, parenting, self-determination, and active lifestyles. Combined, this split focus – academic and personal skills development – forms a solid foundational year upon which future post-secondary success may be built.

The Aboriginal Bridging program is closely associated with the CAS Transition offering of courses and feeds directly into that college program. The successful completion of Aboriginal Bridging will enable students to gain specific credits which may be used in CAS Transition.

OBJECTIVES
1. To provide Aboriginal students, who are secondary level graduates or have mature status, with the opportunity to strengthen the academic and personal development skills necessary to succeed in future post-secondary programs.
2. To provide, in response to identified occupational needs, a bridging program that enhances Aboriginal student transition to higher education.
3. To enhance the employment opportunities of secondary level graduates and mature students through improving fundamental employability skills.

ENTRANCE REQUIREMENTS

1. **High School** - Provincial High School Graduation Certificate, or equivalent.
2. **Adult Basic Education (ABE)** - Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile).
3. **Mature Student Requirements**

Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

Comprehensive Arts & Science (CAS) Transfer: College-University
CERTIFICATE
• **One Year**
• **September**
• **Burin, Carbonear, Grand Falls-Windsor, Happy Valley-Goose Bay, and Labrador West Campuses**

COURSES		Hrs/wk		
CODE	TITLE	Cr	Le	La
BL1175	Principles of Biology I	5	4	3
BL1176	Principles of Biology II	5	4	3
CH1135	Introductory Chemistry I	6	5	3
CH1140	General Chemistry I	6	5	3
CH1141	General Chemistry II	6	5	3
CM1090	CRW I: Telling Stories	4	4	0
CM1145	CRW II: Rhetoric	4	4	0
CM1191	CRW II: Self and Society	4	4	0
CM1192	CRW II: Imagined Places	4	4	0
EC1140	Introduction to Microeconomics	4	4	0
EC1150	Introduction to Macroeconomics	4	4	0
EL1150	Introduction to Folklore	4	4	0
EL2414	Aboriginals of North America	4	4	0
EL1320	Folklore Studies	4	4	0
EL1360	Introduction to Anthropology	4	4	0
EL1420	Introductory French I	4	4	1
EL1430	Introductory French II	4	4	1
EL1440	Introductory French III	4	4	1
MA1104	Algebra and Trigonometry	5	5	0
MA1120	Finite Mathematics I	5	5	0
MA1121	Finite Mathematics II	5	5	0
MA1130	Calculus I	5	5	0
MA1131	Calculus II	5	5	0
MA2150	Linear Algebra I	4	4	0
PH1120	Introductory Physics I	5	4	3
PH1121	Introductory Physics II	5	4	3
PH1130	General Physics I	5	4	3
PH1131	General Physics II	5	4	3
PS1150	Introduction to Psychology I	4	4	0
PS1151	Introduction to Psychology II	4	4	0
SC1150	Principles of Sociology	4	4	0
SC1160	Sociology of Families	4	4	0
SC1430	Labrador Society and Culture	4	4	0
WM1110	Introduction to Gender Studies	4	4	0

Maximum number of CAS Transfer: College-University courses per semester (i.e. Fall; Winter) is five.

Comprehensive Arts and Science (CAS) Transfer: College-University program provides students with the opportunity to complete a suite of courses for which they will gain credit from College of the North Atlantic as well as from Memorial University of Newfoundland. It has been developed through an agreement with Memorial; courses identified in this section are developed in collaboration with Memorial's respective departments. In the areas of curriculum content and testing methodologies, these courses are identical to Memorial's courses.

Notes:
i. Please check the course offerings available at the campus you plan to attend.
ii. Please check course prerequisites and co-requisites during advising/confirmation of enrolment. Course prerequisites and co-requisites must be met in order to confirm registration in the course.

These introductory courses are designed for students intending to transfer to university after completion of their first year at College of the North Atlantic.

OBJECTIVES

1. To enhance student access to courses that earn both University and College credits.
2. To provide an opportunity for students to gain University course credit at locations close to their home communities.
3. To allow students to choose career paths with maximum recognition of credit for work completed.

ENTRANCE REQUIREMENTS

1. High School
Provincial High School Graduation with 60% overall average in the following courses (or equivalents):
i. English 3201 or English 3202
ii. Mathematics (2 credits) chosen from
Advanced: 3200
Academic: 3201
And
2 credits chosen from
Advanced: 2200
Academic: 2201
iii. Science (4 credits) two of which must be selected from the following:
Biology 3201
Chemistry 3202
Physics 3204
Earth Systems 3209
The remaining two credits may be selected from 2000 level courses in the above noted subject areas or from Science 1206.
iv. Two credits at the 3000 level in a Social Science or a Modern/Classical Language. This category includes the following subject areas: History, Geography, Religious Studies, French, Spanish, and other Modern/Classical Languages.
v. Electives
Two credits at the 3000 level in elective courses chosen from the subjects above or from additional courses approved by the Department of Education for offering at the 3000 level for certificate purposes.

2. Comprehensive Arts and Science (CAS) Transition
Note: It is important that CAS Transition students who intend to enroll in the CAS Transfer program check course requirements for their intended post-secondary plans. It is strongly recommended that CAS Transition Certificate students complete:
i. Math Fundamentals MA1040 and MA1041
ii. Two Science courses chosen from one of the following three combinations:
a. Introductory Biology BL1020 and BL1021
b. Introductory Chemistry CH1030 and CH1031
c. Introductory Physics PH1050 and PH1051

3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses:
i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii. Science from one of the following sections:
a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above has been completed.

4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

REQUIREMENTS FOR COMPLETION

In order to complete the requirements of the Comprehensive Arts and Science Transfer: College-University Certificate program, students must complete 10 courses from the CAS Transfer: College-University suite of courses with a minimum Grade Point Average of 2.00.

Note: For purposes of completion of the Certificate, MA1670 Statistics and EP1110 Introduction to Business may also be included in the CAS Transfer: College-University suite of courses. Students must also meet all qualification requirements for the awarding of a Certificate from the college.

Comprehensive Arts & Science (CAS) Transition
CERTIFICATE
• **One Year**
• **September**
• **Bay St. George, Carbonear, Clarenville, Corner Brook, Distributed Learning, Gander, Grand Falls-Windsor, Happy Valley-Goose Bay, Labrador West, Prince Philip Drive, and Seal Cove Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1				
		Cr	**Le**	**La**
	Essential English I	5	5	0

Minimum of 10 Credits from Core Program courses:
      Program Access Courses
      General Education and Social Science Courses
      Exploration and Student Success Courses
Minimum of 3 Credits from Electives

	TITLE			
Semester 2		**Cr**	**Le**	**La**
	Essential English II	5	5	0

Minimum of 10 Credits from Core Program courses:
      Program Access Courses
      General Education and Social Science Courses
      Exploration and Student Success Courses
Minimum of 3 Credits from Electives
Additional Credits as needed to attain 40 Credits

Note: While it is possible to complete the required 40 credits by doing 5 courses per Fall/Winter Semesters, students who select courses with a credit value of 3 or less may have to complete more than 5 courses per Fall/Winter Semesters to graduate in two semesters. The maximum number of courses a student may complete per Fall/Winter Semesters is 7 and it is highly recommended to stay within 5 courses per Fall/Winter Semester.

Required Courses		Cr	Le	La
CM1060	Essential English I	5	5	0
CM1061	Essential English II	5	5	0

CORE PROGRAM COURSES:

Program Access Courses		Cr	Le	La
MA1040	Math Fundamentals I	4	4	1
MA1041	Math Fundamentals II	4	4	1
BL1020	Introductory Biology I	4	3	2
BL1021	Introductory Biology II	4	3	2
CH1030	Introductory Chemistry I	4	3	2
CH1031	Introductory Chemistry II	4	3	2
PH1050	Introductory Physics I	4	3	2
PH1051	Introductory Physics II	4	3	2

General Education & Social Science Courses		Cr	Le	La
CM1180	College English I: Reading Across the College Curriculum	4	4	0
MC1240	Computer Applications I	3	2	2
CR1510	Website Development	3	2	3
PS1140	Psychology I	4	4	0
PS1145	Psychology II	4	4	0
SC1110	Intro to Sociology	4	4	0
SC1130	Family Studies	4	4	0
SC1121	NL Society and Culture	3	3	0
SC1400	Sociology-Labrador Society and Culture	3	3	0

EP1100	Entrepreneurial Studies	4	3	2
HR1120	Human Relations	4	4	0
PS2340	Organizational Behaviour	4	4	0

Exploration and Student Success Courses		**Cr**	**Le**	**La**
SD1570	Effective Learning	4	4	0
SD1580	Critical Thinking Across the Curriculum	4	4	0
SD1230	Career Exploration	4	4	0

Electives:

Students in the CAS Transition program may select electives from the College Calendar provided the course is offered and available to the CAS Transition Student. The student must meet the stated prerequisites/co-requisites of the course, the student's schedule must be able to accommodate the course and the student must meet any other regulations that may apply. Courses over and above the minimum credit requirements in the Core program courses may also be counted as Electives.

Comprehensive Arts and Science (CAS) Transition is designed for high school and Adult Basic Education graduates who would like to improve their general employability skills or who are lacking either the academic courses or the required grades to meet the entrance requirements of the college program they would like to enter. The Transition program also provides a valuable "refresher" for mature students who have been away from education, training and/or the workforce for some time.

Students in the CAS Transition program will be provided the opportunity to gain a wide range of knowledge and skills in preparation for further post-secondary training and/or employment. In addition to courses in English, Mathematics and Sciences, students will be able to select courses from a range of General Education and Social Science courses as well as Exploration and Student Success courses. Transition courses such as Critical Thinking and Effective Learning provide students with the opportunity to develop the essential skills and strategies for successful learning in any college program. The completion of elective courses from other program areas will enable students to gain credits which may be used in a subsequent college program. (**Note**: The range of course offerings may vary between campuses. Prospective students are advised to check with the campus they will be attending to confirm available courses as well as mode of delivery.)

OBJECTIVES
1. To provide the opportunity for secondary-level graduates to meet entrance requirements for other college programs.
2. To provide secondary-level graduates and mature students with the opportunity to strengthen academic skills and/or learning habits and strategies needed to succeed in post-secondary programs.
3. To enhance the employment opportunities of secondary-level graduates and mature students through improving fundamental employability skills.
4. To provide the opportunity for secondary-level graduates to clarify training and career goals.
5. To provide a refresher for mature students who have been away from education, training and/or the workforce for an extended period of time.

ENTRANCE REQUIREMENTS

1. High School
Provincial High School Graduation Certificate, or equivalent
2. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile)
3. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
4. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

FUTURE OPPORTUNITIES

One objective of the CAS Transition program is to increase opportunities for individuals of this province to gain post-secondary qualifications, and thus improve their lifetime employment and earnings potential. A number of government reports have documented the declining significance of high school graduation alone as a predictor of employability/employment status. CAS Transition has the potential to significantly affect the employment and earnings potential of many adults in this province. For those who successfully make the transition to other college programs, the prospects for employment and increased lifetime earnings potential would be greatly enhanced. The Transition program also provides students with a post-secondary credential which could be of immediate benefit to them in the labour market, both in securing part-time work during their college studies and in attaining full-time work if they choose to postpone or suspend their studies for any reason.

Graduates of the CAS Transition program who have successfully completed the appropriate courses may qualify for admission to other college programs or other post-secondary programs or they may elect to enter the workforce directly. Students are advised to speak to an academic advisor regarding course selection. Students who complete the full certificate program may seek to meet admission criteria of Memorial University.

REQUIREMENTS FOR COMPLETION

In order to complete the requirements of the Comprehensive Arts and Science Transition Certificate program, students must attain 40 credits with a minimum Grade Point Average of 2.00. Credits must include completion of Essential English I and II, a minimum of 20 credits from Core Program courses, and a minimum of 6 credits from Electives. Students must also meet all qualification requirements for the awarding of a Certificate from the college. (**Note**: Students may qualify for exemption and attain credit for graduation for Essential English I or II and/or Math Fundamentals I or II *provided the necessary requirements are met. Only Essential English and Math Fundamentals can be considered for exemption within the CAS Transition program using the program specific exemption form. Factors affecting the decision for Exemption include: previous high school course(s) completed and grade attained, assessment scores, subsequent program choice and advisor recommendation*.)

English as a Second Language

COURSES ONLY
• **One Year**
• **September**
• **Distributed Learning Campus**

COURSES

CODE	TITLE	Hrs/wk		
September - December 2021 (12-week semester)				
Semester 1		**Cr**	**Le**	**La**
ES1000	ESL I	8	6	14
January - April 2022 (12-week semester)				
Semester 2		**Cr**	**Le**	**La**
ES2000	ESL II	8	6	14
April - June 2022 (12-week semester)				
Semester 3		**Cr**	**Le**	**La**
ES3000	ESL III	8	6	14

English as a Second Language (ESL) is designed for students who are interested in improving their English language proficiency. Whether for academic, professional, or social purposes, College of the North Atlantic is here to help you achieve your goals. ESL is a set of three College post-secondary courses designed to assist individuals who have completed high school but who lack English language proficiency required for admission into most programs at College of the North Atlantic, with the exception of some Health Sciences programs that require a higher Canadian Language Benchmark (CLB) level. Specifically, ESL is intended for students who have completed "basic language ability" English language training up to a CLB 4.

ESL provides students with the essential reading, writing, listening, and speaking skills necessary to be successful in further studies at CNA. Through an integrated skills approach, listening, speaking, reading and writing are taught with a focus on general and academic contexts of language use. Grammar, vocabulary, spelling and pronunciation are incorporated within the teaching of the four skills. Student success strategies related to independent learning, academic study, and critical thinking are embedded in each of the courses.

Students interested in taking ESL course(s) are required to demonstrate English language proficiency either through a standardized test score (e.g., IELTS, TOEFL, etc.), or by taking the College of the North Atlantic ESL placement test prior to admission into either of the three ESL courses. Students who need to take the CNA – ESL placement test will be required to complete it at a scheduled time.

Upon completion of the ESL III course, students will have met the English language requirements for admission into most programs at CNA, with the exception of some Health Sciences programs.

Pending sufficient enrollment, one ESL course will be offered per semester. ESL I is offered September – December, ESL II will be offered in January – April, and ESL III will be offered in April – June. Students may not enroll in additional courses while completing ESL I, ESL II, or ESL III.

ESL courses are intensive and immersive, requiring students to complete additional study outside of regular class hours. As per the course outlines, each ESL course is 20 hours per week. Students enrolled in an ESL course have full-time status.

OBJECTIVES:
Upon successful completion of ESL III, students will be able to:

1. Listen, speak, read and write at the CLB 7 "Profiles of Ability" as stated in the competency outcomes and standards of the Centre for Canadian Language Benchmarks.
2. Meet English language entrance requirements for most CNA programs.
3. Meet English language proficiency skills needed to succeed in post-secondary programs.
4. Enhance employment opportunities through improving English language proficiency skills.

ENTRANCE REQUIREMENTS:

1. **High School** – Provincial High School Graduation Certificate, or equivalent
2. **Adult Basic Education (ABE)** – Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile).
3. **Mature Student Requirements** Applicants who do not meet the education prerequisites for this program, are 19 years of age or older, and have been out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

   AND

   A minimum English language proficiency level equivalent to CLB 4

INTERNATIONAL APPLICANTS - ENGLISH LANGUAGE PROFICIENCY REQUIREMENTS:
For additional information on English language proficiency requirements for admission into the College, please click the following link College of the North Atlantic - International Students (cna.nl.ca)

Applied Music

DIPLOMA

• **Two Years**
• **September**
• **Prince Philip Drive Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
CM2100	Workplace Correspondence	3	3	0
HM2521	Events Management	5	4	2
MU1130	Music Theory I	3	3	1
MU1415	Performance I	3	2	2
SN1160	Sound & Microphones	4	4	0
SN2200	Recording I	3	3	0
Semester 2		**Cr**	**Le**	**La**
CM1550	Creative Writing	3	3	0
MU1110	Music & Culture	3	3	0
MU1210	Music Theory II	3	3	1
MU1420	Performance II	3	2	3
SN1170	Music Production Techniques	3	2	2
*Elective		3	3	0
Semester 3 (Intersession)		**Cr**	**Le**	**La**
HR1120	Human Relations	4	8	0
SN1410	Stage Lighting	3	4	4
SN3100	Live Sound Production	4	6	4

Intersession hours are actual and will not be adjusted.

CODE	TITLE	Hrs/wk		
Semester 4		**Cr**	**Le**	**La**
CM2200	Oral Communications	2	2	0
HR2121	Public Relations	3	3	0
MU1200	Songs & Songwriting	3	3	0
MU2010	Music of Atlantic Canada	3	3	0
MU2130	Popular Music History	3	3	0
MU2420	Performance III	3	2	3
SN1200	Music Business	3	3	0
Semester 5		**Cr**	**Le**	**La**
CM1521	Writing for the Arts	3	3	0
EP1100	Entrepreneurial Studies	4	3	2
MR2110	Marketing Methods	3	3	0
MU1140	Musicianship & Recording	3	2	2
MU2425	Performance IV	3	2	2
TR1100	Cultural Tourism & the Arts	3	3	0
Elective Minimum credit value of 3		3	3	0
Semester 6 (Intersession)		**Cr**	**Le**	**La**
MU1150	Music in Media	3	4	4
MU1160	Cultural Career Management	3	6	0
MU2015	Online Media Strategies	3	3	1

Intersession hours are actual and will not be adjusted.

The Applied Music program is a two-year diploma program that provides an opportunity for students whose interests lie in contemporary popular music to refine their skills in the company of others who share their passion while gaining exposure to all aspects of the music industry. The annual MusicNL Awards and East Coast Music Awards (ECMA's) highlight success in all areas of the industry and demonstrate that quality music is being generated and has garnered worldwide popularity. Program graduates are nominated for and win awards at such events year after year.

Highlights of what students can expect to experience when enrolled in the Applied Music program:

- Extensive training in musical areas such as live performance, studio performance, songwriting, music theory and history, traditional and popular music, music software applications, music and media, and more.
- Essential recording studio training as well as a thorough exposure to live sound production and stage lighting.
- Studies in music business, entrepreneurialism, traditional and e-marketing, tourism, human and public relations, and event management.
- Engagement in mentorship with faculty who are professional musicians, artist managers and audio engineers.
- Cultural career strategies and business planning.
- Exposure to alternate career options such as booking agents, artist management, publicity or other vital areas of the industry.
- Collaborative projects with other arts disciplines such as Sound Recording & Production, Video Game Art & Design, and Graphic Design programs.

This thorough exposure to the many facets of the music industry will enable students to realistically assess their prospects for success in this highly competitive industry. The Applied Music program provides the graduate with a powerful skill-set as they enter the music industry at a professional level.

FUTURE OPPORTUNITIES
Graduates of the Applied Music program will have opportunities for employment as music professionals within a range of areas such as the following: Independent Solo Performers, Independent Group Performers, Independent Recording Artists, Independent Music Studio Educators, Commercial Music School Educators, Arts and Culture Centre Employees, Musical Directors, Pit Orchestra Musicians, Music Industry Association Employees, Artist Managers, Artist Promoters, Film Score Composers, Songwriters, Music Retail Company Employees, Distribution Company Employees, Music Manufacturing Company Employees, Musical Theatre Company Employees, Instrument Design and Manufacturing Company Employees, Tourism Festival/Events Employees and Music Video Producers.

OBJECTIVES
Upon successful completion of this program, graduates will be able to:

1. Demonstrate knowledge and skills in the musical, technical and business aspects of the music industry.
2. Demonstrate refined musical skills by showcasing their artistic works through recordings, media projects and live public performances.
3. Communicate effectively, creatively and with confidence when writing, presenting, performing and speaking.
4. Use the latest music industry technology to create new artistic works, self-promote and engage with industry at a professional level.
5. Collaborate as effective team members in projects with other artistic disciplines.
6. Demonstrate the social and intellectual development required to meet the challenges of the exciting and demanding music industry.
7. Create a career plan for employment in the cultural industries which will include a self-developed professional portfolio.

ENTRANCE REQUIREMENTS
1. High School
Provincial High School Graduation Diploma with a 60% average in nine level 3000 credits or equivalent
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (CAS) Transition Certificate
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an average pass mark of 60%
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

PORTFOLIO

Applicants to the Applied Music program are required to submit a portfolio that outlines their musical experiences and training, if applicable. It should include several contrasting pieces that best demonstrate the applicant's musical talent and ability. The objective of this portfolio is for the applicant to clearly demonstrate a reasonable chance for success in the program. It will be evaluated in the following areas:

- Musical talent and ability
- Organizational skills
- Overall quality of the portfolio submission

The portfolio and musical examples may be submitted in any of the following formats or a combination of these formats:

- Hard copy printed version;
- Electronic Press Kit (EPK) with link(s) to URLs;
- CD/DVD/Digital Video Files;
- Media Storage Devices

Applied Music Applicant Portfolio

Total Points	Musical talent, ability, and creativity	Organizational skills	Overall quality of the portfolio
5	Items clearly demonstrate that the applicant possesses an exceptional level of musical talent, ability, and creativity.	Items clearly demonstrate that the applicant possesses an exceptional level of organizational skills.	Items are clearly introduced, well organized, creatively displayed, are of high quality and show connections between items.
4	Items clearly demonstrate that the applicant possesses an above average level of musical talent, ability, and creativity.	Items clearly demonstrate that the applicant possesses an above average level of organizational skills.	Items are clearly introduced, well organized, creatively displayed, are of above average quality and show connections between items.
3	Items clearly demonstrate that the applicant possesses an average level of musical talent, ability, and creativity.	Items clearly demonstrate that the applicant possesses an average level of organizational skills.	Items are introduced and somewhat organized, are of average quality, showing some connection between items.
2	Items clearly demonstrate that the applicant possesses a below average level of musical talent, ability, and creativity.	Items clearly demonstrate that the applicant possesses a below average level of organizational skills.	Items are not introduced, lack organization and are of low quality.
1	Items clearly demonstrate that the applicant does not possess a level of musical talent, ability, and creativity that would be required for a reasonable chance for success in the program.	Items clearly demonstrate that the applicant does not possess an acceptable level of organizational skills.	Items are not introduced and lack organization and are of extremely poor quality.

APPLIED ARTS
Art & Design Essentials
CERTIFICATE
- **Two Years**
- **September**
- **Distributed Learning, and Prince Philip Drive Campuses**
- **This program is an Alternate Year Intake**

2021 - 2022
COURSES

CODE	TITLE	Hrs/wk		
FALL		**Cr**	**Le**	**La**
CM1450	Writing Fundamentals	3	3	0
VA1110	Drawing Methods & Media	3	2	2
VA1115	2D Design	2	1	2
VA1400	Colour Theory	3	3	0
WINTER		**Cr**	**Le**	**La**
HY1120	Prehistory to Renaissance	3	2	2
PD1120	Portfolio Development I	2	1	2
PY1150	Photography	3	2	2
VA1140	Figure Drawing	3	2	2
INTERSESSION*		**Cr**	**Le**	**La**

*course offerings to be determined based on student demand

2022 - 2023
COURSES

CODE	TITLE	Hrs/wk		
FALL		**Cr**	**Le**	**La**
CM1520	Writing for the Arts	3	3	0
PD1125	Portfolio Development II	3	2	3
VA1120	Digital Imaging	3	2	2
VA1170	3D Design	3	2	2
WINTER		**Cr**	**Le**	**La**
HY1130	Renaissance to 20th Century	3	2	2
PD1130	E-Portfolio	3	2	2
VA1180	Time-based Media	3	2	2
VA1185	Studio Practice	3	2	3
INTERSESSION**		**Cr**	**Le**	**La**

**course offerings to be determined based on student demand

Woven through its rich and vibrant history, the arts in Newfoundland and Labrador are an integral part of its culture. Performance, media, literary, visual and other arts enrich this province's cultural heritage and contribute significantly to the economy. Studies in art and design promote creativity, flexibility, problem-solving, innovation, critical thinking and other invaluable skills needed in the world today. The Status of the Artist Act recognizes the important contribution professional artists make to the economic and social well-being of our province. Art also contributes to personal well-being. Studies show that art-making and design improve the health and well-being of an individual, and these areas are recognized for their tremendous benefits to individuals and society as a whole.

To remain on the leading edge of offering programs that are current and in demand, College of the North Atlantic is pleased to offer Art & Design Essentials, available both on campus and online through its Distributed Learning Services. Courses in this program will be accessible to students over a two-year period (2021-2022; 2022-2023). Students can choose to complete all 16 courses and receive the post-secondary educational credential of a Certificate in Art & Design Essentials or select courses that are of interest to them. For further information on Distributed Learning Service, please visit dls.cna.nl.ca.

Art & Design Essentials, developed in consultation with industry professions, provides an opportunity to explore a variety of disciplines in the arts. Courses include traditional practices in drawing, two and three-dimensional design, photography, color theory, art history, and the use of contemporary technologies for digital imaging, time-based media and webpage development. The study of portfolios and their design/function will assist with future application processes related to subsequent post-secondary programs, employment, awards, competitions and professional development within the arts.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:
1. Apply design skills using traditional and digital technologies in art.
2. Create a thematic series of artworks demonstrating sustained exploration of concepts and technical processes.
3. Create a portfolio of artwork for application to specialized studies in art, media and design programs at the post-secondary level.
4. Represent themselves and their artwork using effective oral and written communication skills.
5. Utilize portfolio development as a continuous process of personal growth, reflection and self-assessment.
6. Demonstrate knowledge of art history concepts and the development of contemporary art.
7. Demonstrate professional practices that exhibit the entry-level entrepreneurial, innovative and collaborative skill sets that are not only necessary within either an independent or team-based environment but are also required for further study within post-secondary art, media and design programs.
8. Develop effective networking and critical thinking skills necessary for working with professional affiliations within creative industries.

EMPLOYMENT AND OTHER OPPORTUNITIES
The Art & Design Essentials program prepares students for entry-level employment opportunities. For example, the following relates to the employment potential and possible opportunities available for students who complete the program:

Self-Employed Artist: All courses in the program help develop the creative, technical, communication and critical thinking skills required for the production of artwork as a self-employed artist.

Gallery Assistant: Through completing the Portfolio Development I and Portfolio Development II courses, students will develop skills for the evaluation and selection of artists' proposals for exhibition. The Photography course will help students develop skills for the photo documentation of exhibitions in artist-run and commercial galleries.

Freelance Writing: Academic courses such as Writing Fundamentals and Writing for the Arts will help develop writing skills required for review of exhibitions. The Art History courses, Prehistory to Renaissance and Renaissance to 20th Century, will enable students to assess and critique artwork as it relates to contemporary art practices. The E-Portfolio course will develop skills for webpage development and the use of blogs as a platform for writing art reviews.

Assistant for Community Festivals: Community festivals often incorporate an art and cultural component. Writing for the Arts develops skills for writing grant proposals for community-based festivals. Art History courses develop an understanding of the value of contemporary visual culture and the significance of art and craft as cultural artifacts of a community. The E-Portfolio course develops web page design skills for the promotion of community festivals.

Other Opportunities: The program also prepares students for future post-secondary studies in the areas of Arts/Applied Arts, Media and Design.

ENTRANCE REQUIREMENTS

1. High School
Provincial High School Graduation Certificate with a 60% average in nine level 3000 credits or equivalent.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (CAS) Transition Certificate.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an average pass mark of 60%.
4. Mature Student Requirement
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements. For more information regarding the Mature Student Requirements, please refer to Procedure AC-102-PR: Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Community Leadership Development

DIPLOMA

- **Two Years**
- **September**
- **Bay St. George, Carbonear, and Grand Falls-Windsor Campuses**
- **Alternate Year Intake - Carbonear and Grand Falls-Windsor Campuses (September 2022)**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
CM1100	Writing Essentials	3	3	1
HR1120	Human Relations	4	4	0
LD1200	Intro to Human Services	4	4	1
LD2100	Community Development	3	3	0
PS1140	Psychology I	4	4	0
SC1110	Intro to Sociology	4	4	0
Semester 2		**Cr**	**Le**	**La**
CM2100	Workplace Correspondence	3	3	0
CY1010	Intro to Mental Health Issues	3	3	0
FW1235	Field Placement Preparation	1	1	0
LD1120	Leadership Theory	3	3	1
LD1210	Media & Public Relations	3	2	2
PS1145	Psychology II	4	4	0
SC1130	Family Studies	4	4	0
Semester 3 Intersession		**Cr**	**Le**	**La**
FW1445	Field Placement I	5	5 wks	(35 hrs/wk)
LD1300	Professional Certifications I	P/F	2 wks	(24 hrs/wk)

Intersession hours are actual and will not be adjusted.

Semester 4		**Cr**	**Le**	**La**
LD1121	Leadership Practice	3	2	2
LD2220	Interviewing Skills	3	2	2
LD2250	Diverse Populations	4	4	0
LD2300	Intro to Social Research	3	3	1
PS2200	Development Psychology	3	3	0
Community Leadership Development Elective*		3	3	0
Elective (minimum credit value of 3)		3	3	0
Semester 5		**Cr**	**Le**	**La**
CJ2110	Canada's Justice System	3	3	0
LD2110	Change Leadership	3	2	2
LD2400	Voluntary Non-Profit Sector	3	3	0
LD2500	Project Management	3	2	2
PS1200	Drugs & Behaviour	3	3	0
SC1240	Healthy Aging	3	3	0
Community Leadership Development Elective		3	3	0
Semester 6 Intersession		**Cr**	**Le**	**La**
FW1451	Field Placement II	5	5 wks	(35 hrs/wk)
FW2801	Field Placement Reflection	1	1 wk	(20 hrs/wk)
LD2510	Professional Certifications II	P/F	1 wk	(22 hrs/wk)

Intersession hours are actual and will not be adjusted.

*Community Leadership Development (CLD) Electives

Community Leadership Development (CLD) Electives include the following:

Semester 4:
CY1011 Intro to Child & Youth Care
CY1041 Mental Health & Addictions
DB2100 Intro to Disability Studies

Semester 5:
CJ2210 Youth Justice in Canada
DB2110 Disability Studies
PS1240 Understanding Addictions

Please note: Each CLD elective has a credit value of 3 (3 Le/0 La). One CLD elective is taken in Semester 4 and one in Semester 5. Please check the CLD elective offering/s at the campus you plan to attend and seek academic advice (e.g. course prerequisites) before registration.

General Elective Courses:

A list of general elective courses to be offered in the fourth semester will be made available prior to registration. Please check the general elective offering/s at the campus you plan to attend and seek academic advice (e.g. course prerequisites) before registration. Other courses may be chosen provided that:
1. All prerequisites have been met,
2. The course is offered during the semester,
3. The maximum enrolment for the course is not exceeded,
4. The student's schedule can accommodate all scheduled classes for that course.

Community Leadership Development is an exciting two-year diploma program designed to develop leadership competencies for working effectively to reach targeted goals with individuals, groups and organizations within communities. Students engage in the process of learning designed to develop individual leadership capacity while exploring and researching social and economic situations in a community. Areas of skill development include communication skills, leadership development and problem-solving with a goal of becoming an agent for change and empowerment. Recent and relevant certifications built into the program make graduates employment-ready and set apart for immediate entry-level community leadership development work.

Community leadership development involves working with community agencies, non-profit organizations, and both the public and private sectors, along with the people they represent. Effectiveness in community leadership requires specific core competencies such as communication and listening skills, public relations and marketing, cultural intelligence, financial and project management, board governance and ongoing personal and professional development. Students will explore different leadership styles, best practices and models used when coordinating service delivery, managing projects, and evaluating services while responding to a variety of community needs, including working with diverse populations.

The focus of the program includes communications, psychology, sociology, human relations, leadership development, community development and social research. Features may consist of topics such as family studies, working with an aging population, child and youth justice, disability studies, mental health and addictions.

Fundamental to the program is engaging students during experiential learning opportunities. Along with on-going group activities and community initiatives, students will participate in two field placements working on real activities and projects with an employer under the direction of a field placement supervisor. A requirement leading up to the field placement experience includes a current Certificate of Conduct and Vulnerable Sector Check. This is also required for volunteer opportunities within the program and by the field placement employers.

OBJECTIVES
Upon completion of this program, graduates will be able to:
1. Work effectively and professionally with communities to address current needs and issues (e.g. working with diverse populations, child and youth care, seniors and age-friendly communities, immigration, disabilities and inclusion, mental health and well-being, violence, addictions).
2. Demonstrate leadership competencies with innovative approaches to problem-solving, decision-making and managing projects and/or community programs/services.
3. Work effectively with individuals, families, groups and organizations, by having a foundational knowledge of the stages of human development and recognizing the value of social and cultural diversity.
4. Participate during a non-profit organization's strategic planning, board governance, volunteer recruitment and advocacy.

5. Utilize social media and technology for professional purposes, particularly with non-profit community-based organizations and their networking/stakeholder engagement activities.
6. Research, organize, facilitate and manage community projects and initiatives.
7. Demonstrate a capacity to act as change agents to amend conditions within communities.
8. Communicate with proficiency, clarity, accuracy and confidence among groups and stakeholders.
9. Write professional proposals, complete grant applications and fundraise secure funds and sustain existing initiatives and projects.
10. Demonstrate by example the importance of self-care and healthy living while also exploring proactive measures towards mental health, well-being and healthy aging by lifelong learning and collaboration with others.
11. Cultivate community partnerships, build relationships and raise awareness of common issues and goals among partners and stakeholders (e.g. non-profit organizations, government agencies and the private sector).

ENTRANCE REQUIREMENTS
1. High School
Provincial High School Graduation Certificate with a 60% average in nine level 3000 credits or equivalent
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science Transition Certificate
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an average pass mark of 60%
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are at least 19 years of age at the time of application and have been out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

REQUIRED DOCUMENTATION

Certificate of Conduct
A Certificate of Conduct, including a vulnerable sector category, will be required. This Certificate can be obtained from the Royal Newfoundland Constabulary (RNC) or the Royal Canadian Mounted Police (RCMP) and must be dated no more than three months prior to the first scheduled day of classes for the program. Please note that this documentation is required in order to be accepted into the program.

PLEASE NOTE
1. Factors contributing to student success within this program include the following: good writing skills, volunteer work and the enjoyment of helping others.
2. Additional documentation may be required by organizations for field placements and volunteer activities.
3. Students should be aware that additional fees apply for certifications.

FUTURE OPPORTUNITIES
Working within the human services field offers profoundly rewarding opportunities and work experiences. Graduates of the Community Leadership Development Diploma program may find employment with diverse populations among a myriad of organizations and agencies within community, private and public sectors.

This may include, but is not limited to, employment in the following areas:

Addiction Services	Mental Health & Wellness
Child and Youth Care	Residential Support
Community Education	Senior Wellness
Disability Services	Violence Prevention
Family Services	Youth Justice

APPLIED ARTS

Community Recreation Leadership

DIPLOMA
- **Two Years**
- **September**
- **Prince Philip Drive Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		Cr	Le	La
CM1100	Writing Essentials	3	3	1
FH1200	Principles of Physical Fitness	3	3	0
FW1710	Supervised Field Placement Experience I*	5	11 wks	4 wks

*4 wks of placement; 2 hrs lecture per week in remaining 11 weeks (2 hrs/wk) (35 hrs/wk)

MC1150	Productivity Tools	4	3	2
RS1100	Introduction to Community Recreation Leadership	3	3	0
RS1280	Program Planning	2	2	1
RS1450	Introduction to Therapeutic Recreation	3	2	3

Semester 2		Cr	Le	La
AC1100	Bookkeeping I	4	3	2
CM2100	Workplace Correspondence	3	3	0
FW1711	Supervised Field Placement Experience II*	5	11 wks	4 wks

*4 wks of placement; 2 hrs lecture per week in remaining 11 weeks (2 hrs/wk) (35 hrs/wk)

PS2340	Organizational Behaviour	4	4	0
RS1230	Creative Activities	3	2	2
RS1250	Recreation Activities I	3	2	2

Semester 3 (Intersession)		Cr	Le	La
FH1230	Physical Activity Programming for Older Adults	3	4	4
RS1370	Recreation Activities II	3	4	6

Intersession hours are actual and will not be adjusted.

Semester 4		Cr	Le	La
CM2300	Report Writing	2	2	0
FW2710	Supervised Field Placement Experience III*	5	11 wks	4 wks

*4 wks of placement; 2 hrs lecture per week in remaining 11 weeks (2 hrs/wk) (35 hrs/wk)

HN1200	Human Resource Management	3	3	1
RS1240	Recreation Activities III	3	2	2
RS1320	Recreation Administration	3	3	1
RS1400	Community Agencies	3	3	0
RS1440	Recreation Facilities	3	3	1

Semester 5		Cr	Le	La
CM2200	Oral Communications	2	2	0
FW2711	Supervised Field Placement Experience IV*	5	11 wks	4 wks

*4 wks of placement; 2 hrs lecture per week in remaining 11 weeks (2 hrs/wk) (35 hrs/wk)

MN1410	Special Events Management	4	3	3
MR2110	Marketing Methods	3	3	0
RS1460	Recreation Programming for the Older Adult	3	2	3
RS1520	Risk Management and Legal Liability	3	3	0
RS1530	Principles and Procedures of Therapeutic Recreation	3	3	0

Hours per week may vary to accommodate supervised fieldwork experience schedule.

The two-year program, Community Recreation Leadership, has been developed in response to an increasing awareness of the technological and societal changes in modern society that influence people's leisure time, pursuits, and retirement. The program also recognizes the opportunities and challenges inherent in providing recreation services to people.

The purpose of the program is to train personnel who may contribute to the development and extension of individual and group interests and endeavours as they relate to the leisure time of people in urban and rural communities of the province, encompassing all ages and abilities.

In addition to the costs for textbooks, students will be required to pay for special materials required for specific courses as well as fees for certification, participation in selected training seminars or conferences, and for activities associated with outdoor recreation (fees subject to change). The accumulated costs for these materials and activities will be outlined prior to registration.

OBJECTIVES

1. To provide students with training in various recreational pursuits including therapeutic recreation, outdoor recreation, and community-based programming appropriate to the province.
2. To provide students with training in program planning and administration in the use and management of recreational facilities.
3. To foster students' appreciation of the nature of community life, including geographic structure, economic and social factors, and government controls.
4. To foster students' appreciation of the various groups within a community and their particular recreational needs (including children, youth, adults and older adults).
5. To provide students with leadership training to enable them to:
   - Exercise initiative in the development of leisure time activities.
   - Recognize and help strengthen established community activities.
   - Organize and stimulate growth at the community level.

CURRICULUM

1. General Education: Communications (oral and written), social sciences, psychology, accounting and computers.
2. Specific Recreational Activities: Outdoor: cross-country skiing, camping, canoeing, hiking, dryland/aquatic fitness, creative activities, and physical activity programming.
3. Technical Training: Problem solving, supervision and administration of recreation programs, community recreational development for all age groups, and facility development and maintenance.
4. Field Work: Supervised field work experience is scheduled in BLOCK FORM for each semester. The schedule for the winter semesters may coincide with the Reading Break.

FUTURE OPPORTUNITIES
The graduate is awarded a Diploma in Community Recreation Leadership certifying successful completion of two years of post-secondary education combining theoretical knowledge and practical training. Graduates may obtain employment as program directors and supervisors, facility supervisors with agencies such as community centers, municipal recreational agencies, youth agencies and agencies providing therapeutic and rehabilitation services.

Note: Graduates of the Community Recreation Leadership program wishing to pursue further studies in recreation may receive course credits or exemptions from universities such as:
• Acadia University
• Dalhousie University
• Memorial University
• Concordia University
• University of New Brunswick
• Lakehead University
• University of Ottawa

ENTRANCE REQUIREMENTS
1. High School
Provincial High School Graduation Certificate with a 60% average in nine level 3000 credits or equivalent
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science Transition Certificate
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an average pass mark of 60%

4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Entrance Requirements - Additional Documentation Required:
The **Entrance Requirements - Additional Documentation Form** identifies specific documentation that students are **required** to provide prior to online registration for the Community Recreation Leadership Program. You will receive this form as part of your acceptance package and it must be completed, signed and returned prior to online registration.

1) **Section A:** A clear **Criminal Record Screening Certificate (Certificate of Conduct)** with applications obtainable through the RNC, **or** a clear **Criminal Record Check** with applications obtainable through the RCMP. A **Vulnerable Sector Check** is **also** required.

Students must present a copy of a **Vulnerable Sector Check** along with a clear Criminal Record Screening Certificate (Certificate of Conduct) or a clear Criminal Record Check. **These documents must be dated no more than three months prior to the first scheduled day of classes for the program**. This documentation is required in order to be accepted into the program.

2) **Section B: First Aid and Basic Cardiopulmonary Resuscitation Certificate (CPR)**
Students must possess a valid First Aid Certificate and basic Cardiopulmonary Resuscitation Certificate (CPR), valid until the end of each semester.

3) **Section C and Section F: Immunization Record and Immunization Requirements Form**

A **Record of Immunization** is required. Please also be aware that the **Immunization Requirements Form** is a separate form, located in **Section F** on page 4 of the **Entrance Requirements - Additional Documentation Form**.

Please Note:
(i) Copies of the required Criminal Record Screening Certificate (Certificate of Conduct) or the Criminal Record Check, along with the Vulnerable Sector Check, First Aid, CPR, Immunization Record and separate Immunization Requirements Form are to be submitted prior to online registration; otherwise, students will not be able to attend class.
(ii) After enrolment, additional documentation may be required by organizations for field placements and volunteer activities.
(iii) Due to the physical nature of many of the courses offered throughout the two-year program, students are expected to be in good physical condition and demonstrate the ability to take part in intense physical activities in an indoor and outdoor setting.
(iv) Due to the outdoor components in the RS1250 and RS1370 courses, students are required to have appropriate equipment and the clothing necessary to successfully complete these courses (e.g. sleeping bag, back pack, rain gear - pants and jacket, winter clothing - jacket/ pants/ gloves/ hat/ boots, and other clothing/ equipment appropriate for outdoor recreation activities and overnight camping).

Digital Animation

DIPLOMA

• **Two Years**
• **September**
• **Bay St. George Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
CM2200	Oral Communications	2	2	0
MM1400	2D Digital Graphics	3	2	2
MM1500	Introduction to 3D Animation	3	2	2
MM1600	Narrative & Production Design	3	2	2
VA1130	Drawing Fundamentals	3	3	0
VA1160	Animation Drawing I	3	2	3
VA1600	Sculpture for Animators	3	2	2
Semester 2		**Cr**	**Le**	**La**
MM2310	Digital Video Techniques	3	2	2
MM2320	Digital Audio Techniques	3	2	2
MM2560	3D Texture and Digital Paint	3	2	2
MM2670	3D Character Modelling	3	2	2
VA1161	Animation Drawing II	3	2	2
VA2170	Life Drawing	3	2	2
Elective	Minimum credit value of 3	3	3	0
Semester 3 (Intersession)		**Cr**	**Le**	**La**
MM2760	Animation Design Project	4	2	20

Intersession hours are actual and will not be adjusted

CODE	TITLE	Cr	Le	La
Semester 4		**Cr**	**Le**	**La**
CM1680	Writing for the Screen	3	3	0
EP1100	Entrepreneurial Studies	4	3	2
MM1950	Workplace Professionalism	3	3	0
MM2620	2D Computer Animation	3	2	2
MM2680	3D Character Animation	5	3	5
MM2700	Multimedia Lab I	2	1	2
Semester 5		**Cr**	**Le**	**La**
CP4470	Emerging Trends in Industry	3	2	2
MM2710	Multimedia Lab II	1	0	2
MM2830	3D Post-Production & Visual FX	4	3	2
MM2850	Digital Compositing	4	3	2
MM2900	Portfolio Development	3	2	3
VA3550	Screening & Peer Critique	3	2	3

Digital Animation is a two-year diploma program that combines comprehensive instruction in design fundamentals, industry standard animation software tools and collaborative production techniques, with creative problem-solving and visual storytelling methods. From the practice of sequentially drawn images to the creation of fully realized 3D characters and environments, this approach allows the student to study the subject of Digital Animation with the broadest creative scope and range of technical application.

This program is task-oriented; successful progress is based on personal performance in a series of both individual and group production projects. These projects include animated short subject films and video productions from conception to the finished product. The program culminates in a final personal animation project, portfolio and resume suitable for presentation to potential employers.

FUTURE OPPORTUNITIES

Graduates will be prepared for employment in the global communications and entertainment industry, film, broadcasting, gaming and design, as well as visualization services for the medical, engineering, simulation training, architectural and publishing fields.

OBJECTIVES

Upon successful completion of the program, graduates will be able to:

1. Apply the concept of "Design" as a professional discipline and historical practice.
2. Use technical skills in areas such as narrative, design, storyboarding, modeling and animation to create digital animation.
3. Demonstrate appropriate work habits, attitudes and behaviors required for employment.
4. Apply entrepreneurial skills to budget, resource, schedule and market animated projects.
5. Create a final portfolio demonstrating industry applicable skills.

ENTRANCE REQUIREMENTS

1. High School

Provincial High School Graduation Certificate with a 60% average in nine level 3000 credits or equivalent

2. Comprehensive Arts and Science (CAS) Transition

Comprehensive Arts and Science Transition Certificate

3. Adult Basic Education (ABE)

Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an average pass mark of 60%

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

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If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Note: Basic computer skills along with an ability to draw are important and considered definite assets for success in this program.

APPLIED ARTS

Digital Filmmaking
DIPLOMA
• **Two Years**
• **September**
• **Bay St. George Campus**

COURSES

CODE	TITLE	Cr	Le	La
Semester 1		**Cr**	**Le**	**La**
CM1100	Writing Essentials	3	3	1
FV1110	History of Cinema	3	2	2
FV1210	Digital Filmmaking Techniques I	3	2	2
FV1230	Overview of the Film Industry	2	2	0
FV1260	Introduction to Post Production	3	2	2
HY1130	Renaissance to 20th Century	3	2	2
SN2420	Sound for Visual Media	4	3	2
Semester 2		**Cr**	**Le**	**La**
CM1680	Writing for the Screen	3	3	0
CS2500	Project Management	3	3	1
FV1235	Director Studies I	3	2	2
FV1280	Lighting & Grip	3	2	2
FV1285	Picture & Sound Editing	3	2	2
FV2210	Documentary Filmmaking	3	2	3
Elective	Minimum credit value of 3	3	3	0
Semester 3 Intersession		**Cr**	**Le**	**La**
FV1221	Short Film Production I	4	4	14
FV1290	Digital Filmmaking Techniques II	3	4	4

Intersession hours are actual and will not be adjusted.

CODE	TITLE	Cr	Le	La
Semester 4		**Cr**	**Le**	**La**
CM2200	Oral Communications	2	2	0
FV2000	Art Direction & Production Design	2	1	3
FV2010	Digital Cinematography	2	1	2
FV2020	Live TV & Webcasting	3	2	3
FV2030	Director Studies II	3	2	2
MM1400	2D Digital Graphics	3	2	2
MM1950	Workplace Professionalism	3	3	0
Semester		**Cr**	**Le**	**La**
EP2000	Entrepreneurship in Practice	4	3	2
FV2040	Film Industry & Certifications	3	2	2
FV2050	Advanced Documentary	3	2	3
FV2060	Colour Correction/Sound Design	3	2	2
FV2070	Director Studies III	3	2	2
MM2850	Digital Compositing	4	3	2
Semester 6 Intersession		**Cr**	**Le**	**La**
FV2080	Short Film Production II	5	5	16
PD1110	Portfolio Development	1	2	2

Intersession hours are actual and will not be adjusted

Elective Courses:
Elective/s to be offered in the second semester will be made available prior to registration. Other courses may be chosen provided that:

1. All prerequisites have been met,
2. The course is offered during the semester,
3. The maximum enrolment for the course is not exceeded,
4. The student's schedule can accommodate all scheduled classes for that course.

As a two-year, six-semester program, Digital Filmmaking responds to the increasing demand for filmmakers and technicians in the Canadian filmmaking industry. The primary objective is to prepare students for an exciting career in the filmmaking industry by providing each student with an abundance of fundamental knowledge and skill development in narrative, documentary, music videos, factual entertainment and other genres of filmmaking.

While learning the skills required for visual storytelling, students will also learn the art of filmmaking by actually making films. The program centers on meticulous hands-on training whereby students work with industry standard equipment to learn professional techniques in various aspects of the filmmaking process. Each semester, students will engage in progressive learning as it relates to producing, directing and editing during both individually-based and team-oriented projects.

During both Intersession semesters, first and second-year students, together with their instructors, will work on developing and producing a short film which will then be screened by a public audience. Added to the practical experience Digital Filmmaking students will acquire, students will graduate with a number of certifications necessary to work in the rapidly growing and complex filmmaking industry.

While merging creative and technical aspects of filmmaking, the program will prepare and qualify students for entry-level technical positions associated with filmmaking. Graduates from this program will have a well-rounded knowledge of the filmmaking industry and gain an understanding of the many unique and rewarding career paths available within that industry.

OBJECTIVES
Upon completion of this program, graduates will be able to:

1. Identify the complex components of the provincial, national and international film industry.
2. Demonstrate proper etiquette and safety practices on a film set.
3. Communicate with proficiency, clarity and confidence within a team-based and hierarchical workplace structure.
4. Apply technical proficiency with industry standard equipment (digital cinema cameras, lighting fixtures and grip equipment, field sound recording equipment, picture and sound editing).
5. Practice creative visual storytelling through the art of previsualization, scriptwriting, production scheduling, location filming and editing.
6. Demonstrate an understanding of live television production, webcasting, art direction, post colour and sound production, proposal writing and entrepreneurial practices.
7. Apply team-working and applicable problem-solving skills unique to the film industry.
8. Demonstrate visual, oral and written communication skills to create compelling stories.
9. Identify and seek/renew industry-relevant certifications.
10. Create engaging independent narrative and documentary films.
11. Plan a career path within the filmmaking industry.

FUTURE OPPORTUNITIES
The Filmmaking industry is an exciting, dynamic and complex field with diverse opportunities for employment as film productions and filmmaking activities within the province, nationally, as well as internationally continue to increase. Graduates of the Digital Filmmaking program have opportunities to work at entry-level positions on filmmaking crews which are in demand. They can seek employment in areas such as, but not limited to, a Grip, Lighting Technician, Sound Personnel (Boom Operator), Trainee - Assistant Director, Editor's Assistant or Camera Trainee.

ENTRANCE REQUIREMENTS
1. High School
Provincial High School Graduation Certificate with a 60% average in nine level 3000 credits or equivalent
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science Transition Certificate
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an average pass mark of 60%

4. Mature Student Requirements

Applicants who do not meet the educational prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Please Note:

There are physical requirements (e.g. lifting) in this program as a result of the physical requirements of working in the Digital Filmmaking industry (e.g. individuals must be able to work long hours in different environmental conditions, be comfortable working at heights and be aware of lifting requirements of at least 30 pounds).

APPLIED ARTS

Early Childhood Education
CERTIFICATE/DIPLOMA
• **One/Two Years**
• **September**
• **Corner Brook, and Prince Philip Drive Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
EE1180	Curriculum I	3	3	0
EE1340	Child Development I	2	2	0
EE1290	Positive Behaviour Guidance	4	4	0
EE1420	Creative Experiences I	3	2	2
FH1340	Health & Safety	3	3	0
FW1600	Field Placement I	6	1	5 wks

Five weeks of Field Placement during the semester; Field Placement lecture in the other 10 weeks. Hours of other courses will be adjusted to reflect 10 weeks of the semester.

Semester 2		**Cr**	**Le**	**La**
EE1181	Curriculum II	3	3	0
EE1341	Child Development II	3	3	1
EE1360	Observation	2	2	1
EE1421	Creative Experiences II	3	2	2
FH1360	Childhood Nutrition	2	2	0
HR1300	Communications & Human Relations	2	2	0
FW1601	Field Placement II	6	1	5 wks

Five weeks of Field Placement during the semester; Field Placement lecture in the remaining 10 weeks. Hours of other courses will be adjusted to reflect 10 weeks of the semester.

Semester 3 (Intersession)		**Cr**	**Le**	**La**
EE2500	School-Age Development & Care	4	4	0
EE1440	Family Studies I	3	3	0
EE1480	Inclusion I	2	2	0

The lecture and lab hours per week are based on a 15-week semester. In Intersession, the lecture and lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4		**Cr**	**Le**	**La**
EE2180	Curriculum III	5	4	2
EE2340	Child Development III	4	4	0
CM2130	Workplace Writing	3	3	0
EE2255	Advanced Behaviour Guidance	3	3	0
EE1870	Community Resources **OR**			
FH1500	Personal Wellness	2	2	0
FW2600	Field Placement III	5	1	4 wks

Four weeks of Field Placement during the semester; Field Placement lecture in the other 11 weeks. Hours of other courses will be adjusted to reflect 11 weeks of the semester.

Semester 5		**Cr**	**Le**	**La**
EE2260	Introduction to Child Care Administration	3	3	0
EE1441	Family Studies II	3	3	0
EE2350	Professional Practice	2	2	0
EE2470	Infant Development and Care	3	3	1
EE1481	Inclusion II	4	4	0
FW2601	Field Placement IV	5	1	4 wks

Four weeks of Field Placement during the semester; Field Placement lecture in the other 11 weeks. Hours of other courses will be adjusted to reflect 11 weeks of the semester.

ECE Certificate courses are those listed in Semesters 1, 2, and 3 above.

Early Childhood Educators (ECEs) have a lasting, positive impact on the development of children, and provide an essential support for families, communities, and society. Early literacy and numeracy, socialization, indoor and outdoor physical activities, and creative experience in art, music, movement, and dramatic play, are some of the areas in which students will acquire knowledge and skills to support and encourage children's development. Students will have the opportunity to apply their learning on field placements, with different age groups, in the College's demonstration child care centres and a variety of child care settings.

The usual work environment for ECEs involves daily indoor and outdoor activity. Being in good health and having, energy, patience, physical stamina, good communication and interpersonal skills are assets that will help students in this profession.

ENTRANCE REQUIREMENTS
1. High School
Provincial High School Graduation Certificate with a 60% average in nine level 3000 credits or equivalent
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science Transition Certificate
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an average pass mark of 60%
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.
AND
Early Childhood Education (ECE) Documentation Required:
1. Clear certified criminal records check (issued by RCMP) or clear criminal records screening certificate (issued by RNC)
2. Clear vulnerable sector records check (issued by RCMP/RNC)
3. Record of Immunization or Statement of Immunization

*Please note: The certified criminal records check (issued by RCMP) or clear criminal records screening certificate (issued by RNC), vulnerable sector records check (issued by RCMP/RNC), and the Record of Immunization or Statement of Immunization **must be submitted to the College prior to online registration**. Further information on obtaining ECE program documentation may be found HERE.

The certified criminal records check or criminal records screening certificate and the vulnerable sector records check:
• Must be dated no more than three months prior to the first scheduled day of classes for the program;
• Is valid for a period of three years, unless the student is absent from the program for six months or more.

To be employed in the field of early childhood education and to successfully fulfill field placement requirements, students must be able to lift and move children, materials and equipment (up to 50 pounds) on a consistent basis. As well, physical effort, strength and endurance is required in the supervision and care of children, e.g., maintaining balance, kneeling and bending, pushing and pulling strollers and carts, and moving quickly to assist children in emergency situations.

EARLY CHILDHOOD EDUCATION - DIPLOMA

Students in the two-year Diploma program support children's learning, and their development in all areas: physical, social, emotional, cognitive, and language development. In addition, students learn how to develop, maintain, and evaluate a child care program based on best practices, and support the inclusion of all children, in programming. Students are introduced to the administrative skills necessary to manage a child care service. With relevant work experience, a Diploma graduate will be qualified to become the Administrator of a licensed child care centre.

There is a direct link between the level of education an ECE has and the quality of education and care that is provided to children. The Early Childhood Education Diploma program is an important step on the career ladder (certificate, diploma, degree) to increasing qualifications as an ECE. Diploma graduates are eligible for Level II Child Care Services Certification in infant, preschool and school-age care, working with children ages 0-12.

OBJECTIVES

Upon successful completion of the Diploma program, graduates will be able to:

1. Support and promote the overall development of children aged birth to 12 years.
2. Develop and maintain developmentally appropriate programs, and indoor and outdoor environments that reflect best practices.
3. Explain variations in the developmental abilities of children aged birth to 12 years.
4. Maintain caring and responsive relationships with the children in their care.
5. Carry out effective and positive behaviour guidance, and discuss challenging behaviour.
6. Create and implement a philosophy statement, and develop programs and policies based on the philosophy.
7. Support staff in the delivery of programs, policies and guidelines.
8. Set up and maintain an environment that supports diversity and inclusion.
9. Observe, document and evaluate program delivery, child development, and adult/child interactions.
10. Discuss and illustrate the principles of early learning.
11. Demonstrate professional behaviour, reflective practice, and effective relationships with children, families, staff, and the community.
12. Apply provincial child care legislation, standards and policies, and all other applicable legislative and regulatory requirements.

FIELD PLACEMENT

Students complete four Field Placements during the Diploma program, two in year 1 and two in year 2. Field Placements include time spent in the College's demonstration child care centre. **Please Note: Students work with the ECE faculty to determine approved field placement sites.**

Prior to the start of a field placement, students must submit to Student Services a current copy of at least an emergency level (one day) diploma/certificate in first aid and CPR dealing with children. A list of approved first aid training providers can be found on the [Workplace NL](#) website.

FUTURE OPPORTUNITIES

Graduates of the Diploma program will be prepared for employment with organizations providing early learning & child care, or self-employment in the child care field. With relevant work experience, graduates will be able to develop programs for and/or supervise in child care services in communities throughout the province.

CERTIFICATION

The graduate is awarded a Diploma of Applied Arts in Early Childhood Education from the College. This parchment indicates successful completion of two years of post-secondary education, combining theory and practical experience in the care, education, and guidance of children, as well as best practices in developmentally appropriate programming and environments. Completion of this program is one of the steps towards provincial Child Care Services (CCS) Certification granted through the [Association of Early Childhood Educators of Newfoundland and Labrador (AECENL)](#). Currently, the Early Childhood Education Diploma is equivalent to Level II CCS Certification for infant, preschool and school-age children.

EARLY CHILDHOOD EDUCATION - CERTIFICATE

Students in the one-year Certificate program support children's learning, and their development in all areas: physical, social, emotional, cognitive, and language development. The Early Childhood Education Certificate program is the first step in becoming a qualified ECE. Certificate graduates will be eligible for Level I Child Care Services Certification in preschool and school-age care (working with children ages 18 months-12 years). The one-year Certificate is also the same as the first year of the Early Childhood Education Diploma program.

OBJECTIVES

Upon successful completion of the Certificate program, graduates will be able to:

1. Support and promote the overall development of children aged 18 months to 12 years.
2. Develop and maintain developmentally appropriate programs, and indoor and outdoor environments that reflect best practices.
3. Explain variations in the developmental abilities of children aged 18 months to 12 years.
4. Maintain caring and responsive relationships with the children in their care.
5. Carry out effective and positive behaviour guidance, and discuss challenging behaviour.
6. Demonstrate professional behaviour and reflective practice in interactions with children, families and the community.
7. Identify and outline provincial child care legislation, standards and policies.

FIELD PLACEMENT
Students complete two Field Placements during the Certificate program, one in Semester 1 and one in Semester 2. Field Placements include time spent in the College's demonstration child care centre. **Please Note: Students work with the ECE faculty to determine approved field placement sites.**

Prior to the start of a field placement, students must submit to Student Services, a current copy of at least an emergency level (one day) diploma/certificate in first aid and CPR dealing with children. A list of approved first aid training providers can be found on the [Workplace NL](#) website.

FUTURE OPPORTUNITIES
Graduates of the Certificate program will be prepared for employment with organizations providing early learning & child care, or self-employment in the child care field.

CERTIFICATION
The graduate is awarded a Certificate of Applied Arts in Early Childhood Education from the College. This parchment indicates successful completion of one year of post-secondary education, combining theory and practical experience in the care, education, and guidance of children. This program is one of the steps towards provincial Child Care Services (CCS) Certification granted through the [Association of Early Childhood Educators of Newfoundland and Labrador (AECENL)](#). Currently, the Early Childhood Education Certificate is equivalent to Level I CCS Certification for preschool and school-age children.

Early Childhood Education - Distributed Learning
CERTIFICATE/DIPLOMA

- **Varies**
- **September**
- **Distributed Learning Campus**

Early Childhood Education (ECE) is also available by distance education, online through the College's Office of Distributed Learning (DL). Program descriptions, objectives, graduation requirements and the list of courses may be found on the **Early Childhood Education** full-time program pages.

A Learner Course Plan for ECE course completion is developed with each student, based on an assessment of any previous ECE or related training they may already have, and any PLAR credits received. Learner Course Plans are posted on the Early Childhood Education – Distributed Learning program pages.

Distance students register each semester from a list of course offerings. These offerings, and other important information about ECE by Distance, are posted on the Early Childhood Education – Distributed Learning program pages. Students may enroll on a part-time basis. Students who go beyond the time frame for completion by distance may be required to complete additional or revised courses before being deemed eligible to graduate.

ENTRANCE REQUIREMENTS
All entrance requirements listed on the Early Childhood Education full-time program pages must be met including: both the academic requirements and the ECE program documentation requirements. Further information on obtaining ECE program documentation may be found **HERE**

To participate in courses, students must have an internet-ready computer system. General internet/computer knowledge (e.g. e-mail, ability to save files, install programs, and related applications) would be a valuable asset.

To be employed in the field of early childhood education and to successfully fulfill field placement requirements, students must be able to lift and move children, materials and equipment (up to 50 pounds) on a consistent basis. As well, physical effort, strength and endurance is required in the supervision and care of children, e.g., maintaining balance, kneeling and bending, pushing and pulling strollers and carts, and moving quickly to assist children in emergency situations.

Applicants currently working in a regulated child care service:

Applicants must submit a current copy of the following program documentation:
1. Clear certified criminal records check (issued by RCMP) or clear criminal records screening certificate (issued by RNC)
2. Clear vulnerable sector records check (issued by RCMP/RNC) and
3. Record of Immunization or **Statement of Immunization**

*Please note: The certified criminal records check (issued by RCMP) or clear criminal records screening certificate (issued by RNC), vulnerable sector records check (issued by RCMP/RNC), and the Record of Immunization or Statement of Immunization **must be submitted to the College prior to online registration.***

Prior to the start of a field placement, students must submit to Student Services a current copy of at least an emergency level (one day) diploma/certificate in first aid and CPR dealing with children. A list of approved first aid training providers can be found on the Workplace NL website.

Once admitted into the program, a student who does not enroll in courses for six months or more must re-submit a current copy of all of the above required ECE program documentation.

Applicants not working in a regulated child care service:
Applicants must submit a current copy of the following program documentation which must be dated **no more than three months** prior to the first scheduled day of classes:

1. Clear certified criminal records check (issued by RCMP) or clear criminal records screening certificate (issued by RNC)
2. Clear vulnerable sector records check (issued by RCMP/RNC) and
3. Record of Immunization or **Statement of Immunization**

*Please note: The certified criminal records check (issued by RCMP) or clear criminal records screening certificate (issued by RNC), vulnerable sector records check (issued by RCMP/RNC), and the Record of Immunization or Statement of Immunization **must be submitted to the College prior to online registration***.

Prior to the start of a field placement, students must submit to Student Services a current copy of at least an emergency level (one day) diploma/certificate in first aid and CPR dealing with children. A list of approved first aid training providers can be found on the [Workplace NL](#) website.

Once admitted into the program, a student who does not enroll in courses for six months or more must re-submit a current copy of all of the above required ECE program documentation.

FIELD PLACEMENT
Students in the ECE Online Diploma program are required to complete four Field Placements: FW1600 (5 weeks); FW1601 (5 weeks); FW2600 (4 weeks) and FW2601 (4 weeks). Provincial program standards require that learners must complete a majority of their placements in a regulated child care centre. For the Diploma program, a minimum of 500 hours must be completed in a regulated child care centre, while the remaining hours may be in a regulated family child care home, child care centre, a family child care agency, a kindergarten classroom or a family resource centre.

For those online students currently working in regulated child care (i.e., for a minimum of 12 consecutive months), a minimum of 2 weeks must be completed at a College of the North Atlantic (CNA) demonstration child care centre. An additional week at a CNA demonstration child care centre (for a total of 3 weeks out of the required 18 weeks) will be mandatory for the following:
(i.) students working in regulated child care for less than 12 consecutive months;
(ii.) students not working in regulated child care.

Students in the ECE Online Certificate program are required to complete two Field Placements: FW1600 (5 weeks) and FW1601 (5 weeks). Provincial program standards require that learners must complete a majority of their placements in a regulated child care centre. For the Certificate program, a minimum of 260 hours must be completed in a regulated child care centre, while the remaining hours may be in a regulated family child care home, child care centre, a family child care agency, a kindergarten classroom or a family resource centre.

For those online students currently working in regulated child care (i.e., for a minimum of 12 consecutive months), a minimum of 1 week must be completed at a College of the North Atlantic (CNA) demonstration child care centre. An additional week at a CNA demonstration child care centre (for a total of 2 weeks out of the required 10 weeks) will be mandatory for the following:
(i.) students working in regulated child care for less than 12 consecutive months;
(ii.) students not working in regulated child care.

Students will be assigned a CNA demonstration child care centre based on geographical location. Our centres are located in St. John's, Corner Brook and Happy Valley - Goose Bay. Please note: For new students accepted into the ECE Online Certificate program starting in Academic Year 2020-2021, the ECE Manager will be allocating which field placement course (FW1600 or FW1601) and the dates in which a student will complete the mandatory week(s).

Prior to the start of a field placement, students must submit to Student Services, a current copy of at least an emergency level (one day) diploma/certificate in first aid and CPR dealing with children. A list of approved first aid training providers can be found on the [Workplace NL](#) website.

PRIOR LEARNING ASSESSMENT AND RECOGNITION (PLAR)
Students will be given every opportunity to receive credit for past learning experience through a comprehensive systematic process of evaluation. Once enrolled and active in the program, students will be permitted to submit PLAR applications for any courses in the program for which they believe they have already acquired the appropriate level of knowledge and skills, except Field Placements II, III and IV. For further information, please refer to the [Early Childhood Education – Distributed Learning](#) program pages.

FUTURE OPPORTUNITIES
Graduates of the Diploma program will be prepared for employment with organizations providing early learning & child care, or self-employment in the child care field. With relevant work experience, they will be able to develop programs for and/or supervise in child care services in communities throughout the province.

Graduates of the Certificate program will be prepared for employment with organizations providing early learning & child care, or self-employment in the child care field in communities throughout the province.

CERTIFICATION
The Diploma program graduate is awarded a Diploma of Applied Arts in Early Childhood Education from the College. This parchment indicates successful completion of two years of post-secondary education, combining theory and practical experience in the care, education, and guidance of children, as well as best practices in developmentally appropriate programming and environments. Completion of this program is one of the steps towards provincial Child Care Services (CCS) Certification through the [Association of Early Childhood Educators of Newfoundland and Labrador (AECENL)](#). Currently, the Early Childhood Education Diploma is eligible for Level II CCS Certification for infant, preschool and school-age classifications.

The Certificate program graduate is awarded a Certificate of Applied Arts in Early Childhood Education from the College. This parchment indicates successful completion of one year of post-secondary education, combining theory and practical experience in the care, education, and guidance of children. Completion of this program is one of the steps towards provincial CCS Certification through AECENL. Currently, the Early Childhood Education Certificate is eligible for Level I CCS Certification for preschool and school-age classifications.

LOCATION
Early Childhood Education – Distributed Learning is available province-wide with on-campus Field Placements currently held at the Prince Philip Drive, Corner Brook, and Happy Valley-Goose Bay campuses.

For the complete listing of courses required for the Diploma and Certificate programs, please see the Early Childhood Education full-time program pages.

Early Childhood Education Administrative Leadership

ADVANCED DIPLOMA

- **Varies**
- **September**
- **Distributed Learning Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1 – Fall		**Cr**	**Le**	**La**
EE3010	Leadership	4	4	0
EE3020	Culture & Diversity	4	4	0
EE3030	Governance in ECE	4	4	0
EE3035	Financial Management in ECE	3	3	1
EE3045	Conflict Resolution	3	3	1
Semester 2 - Winter		**Cr**	**Le**	**La**
EE3015	Relationship Building	4	4	0
EE3025	Mentoring in ECE	4	4	0
EE3040	Human Resources in ECE	4	4	0
EE3050	Current & Emerging Trends	4	4	0
EE3055	Reflective Practice in ECE	3	2	2
Semester 3 - Intersession*		**Cr**	**Le**	**La**

*Course offerings to be determined

The Early Childhood Education (ECE) Administrative Leadership program provides an exciting opportunity for further education and specialized training for early childhood educators, with a focus on increasing knowledge and skills in the area of administrative leadership. Students completing the ECE Administrative Leadership program will gain invaluable knowledge to enhance confidence and support career advancement. This knowledge will be utilized to increase educational qualifications as well as provide an incredible opportunity to advance professional certification within the ECE field. Graduates of the advanced diploma (with an ECE Diploma) are eligible for Level III Child Care Services Certification* from the Association of Early Childhood Educators of Newfoundland and Labrador (AECENL). Throughout this program, students will develop leadership skills, particularly those required of a child care administrator for regulated early learning and child care settings. Courses in this program will spark interest in early childhood educators as specific applications of leadership, mentorship, relationship building, human resources, and reflective practice are included. In addition, students will learn about provincial legislative requirements, as well as current and emerging trends within the field of early childhood education.

The advanced diploma in ECE Administrative Leadership program is designed for graduates of a recognized ECE diploma program. It builds upon the education and practical experiences of the student, resulting in graduates who will be leaders and mentors in the field of early childhood education.

Students may complete this program on a full-time or part-time basis and have a maximum of 12 semesters to complete the program. A Learner Course Plan for course completion is developed with each student, based on an assessment of any previous ECE or related training they may already have, and any PLAR credits received. The Learner Course Plan specific to this program can be found HERE.

Online students register each semester from a list of course offerings. These offerings, and other important information about the ECE Administrative Leadership program, are posted on the Early Childhood Education Administrative Leadership program pages. *To participate in courses, students must have an internet-ready computer system. General internet/computer knowledge (e.g. e-mail, ability to save files, install programs, and related applications) would be a valuable asset.*

OBJECTIVES

Upon successful completion of this program, graduates will be able to:

1. Effectively administer the day-to-day operations of an early learning and child care program, particularly in the regulated sector.
2. Create informed and professional documents that will assist with quality child care operations.

3. Apply knowledge of provincial legislative documents to ensure safe, high-quality, healthy, and compliant early learning and child care environments.
4. Supervise, mentor, direct, and provide professional support to employees, students, and volunteers within early learning and child care settings.
5. Lead, inspire, and be an informed advocate within the early learning and child care sector.
6. Embrace diversity and build professional relationships with children/families, and their communities as well as other stakeholders.
7. Demonstrate confidence, critical thinking, and reflective practice, as well as ethical and professional behaviour at all times.
8. Maintain currency within the ECE field by actively seeking professional learning resources and opportunities.

ENTRANCE REQUIREMENTS

Eligibility for admission into the Early Childhood Education Administrative Leadership program requires the applicant to meet one of the following criteria:

1. Have graduated from the Early Childhood Education diploma program at College of the North Atlantic;
   OR
2. Have graduated from a recognized post-secondary Early Childhood Education diploma (or equivalent) program (or have a combination of other post-secondary education and industry experience acceptable to the College as an entrance requirement).

Documentation Required*:

1. Clear certified criminal records check (issued by RCMP) or clear criminal records screening certificate (issued by RNC);
2. Clear vulnerable sector records check (issued by RCMP/RNC); and
3. Record of Immunization or Statement of Immunization

The certified criminal records check or criminal records screening certificate and the vulnerable sector records check:
- Must be dated no more than three months prior to the first scheduled day of classes for the program; and
- Is valid for a period of three years, unless the student is absent from the program for six months or more.

*Please note:
- The certified criminal records check (issued by RCMP) or clear criminal records screening certificate (issued by RNC), vulnerable sector records check (issued by RCMP/RNC), and the Record of Immunization or Statement of Immunization must be submitted to the College prior to online registration.
- If an applicant is currently working in a regulated child care service, they may submit copies of their current certified criminal records check/criminal records screening certificate, vulnerable sector records check, and Record of Immunization or Statement of Immunization to Student Services.

PRIOR LEARNING ASSESSMENT AND RECOGNITION (PLAR)

Students will be given every opportunity to receive credit for past learning experience (with the exception of EE3050 and EE3055) through a comprehensive systematic process of evaluation. Once enrolled and active in the program, students will be permitted to submit PLAR applications for any courses in the program for which they believe they have already acquired the appropriate level of knowledge and skills. For further information, please refer to the Early Childhood Education Administrative Leadership program pages.

FUTURE OPPORTUNITIES

Upon successful completion of the program, graduates will be prepared for employment in administrative leadership roles in a variety of early learning and child care settings. These could include but are not limited to the following:

- Child care centres
- Family homes
- Family agencies
- Family resource centres
- Drop-in playgroups
- Head Start programs

*CERTIFICATION
Upon completion of this program, individuals may apply for provincial Child Care Services (CCS) Certification through the Association of Early Childhood Educators of Newfoundland and Labrador (AECENL). The Early Childhood Education Administrative Leadership advanced diploma (with an ECE Diploma) is eligible for Level III CCS Certification in classifications the individual already holds. For information on certification, please visit [Association of Early Childhood Educators of Newfoundland and Labrador (AECENL)](#).

APPLIED ARTS

Graphic Communications

DIPLOMA
- **Two Years**
- **September**
- **Prince Philip Drive Campus**
- **Alternate Year Intake**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
CM1400	Technical Report Writing I	3	3	0
GA1140	Vector Graphics	2	2	1
GA1170	Graphics Problem Solving	3	3	0
GA1230	Finishing & Bindery I	3	2	2
GA1420	Digital Page Layout I	3	2	3
GA1620	Offset Printing I	5	4	4
Semester 2		**Cr**	**Le**	**La**
GA1220	Colour Management	3	3	0
GA1320	Digital Printing I	5	4	2
GA1421	Digital Page Layout II	3	2	3
GA1470	Web Processes	2	2	1
GA2570	Production Workflow	3	2	2
PY1200	Photography I	3	2	3
Semester 3 (Intersession I)		**Cr**	**Le**	**La**
GA1740	Textiles Graphics & Imaging I	3	2	2
GA1750	Display Graphics & Assembly I	3	2	2
GA1890	Business Practices	3	3	0

Intersession hours are actual and will not be adjusted.

Semester 4		**Cr**	**Le**	**La**
CM2200	Oral Communication	2	2	0
GA1321	Digital Printing II	5	4	2
GA1520	Image Manipulation I	3	2	2
GA1621	Offset Printing II	5	4	4
GA2420	Digital Page Layout III	3	2	3
Semester 5		**Cr**	**Le**	**La**
GA1231	Finishing & Bindery II	3	2	2
GA1751	Display Graphics & Assembly II	3	2	2
GA2320	Digital Printing III	5	4	2
GA2750	Advanced Graphics Imaging	4	2	6
Elective*		3	2	2

Semester 6 (Intersession)		**Cr**	**Le**	**La**	
FW1180	Field Placement Preparation	1	1 wk	0	(20 hrs/wk)
FW2810	Field Placement	4	0	4 wks	(35 hrs/wk)
FW2811	Field Placement Reflection	1	1 wk	0	(20 hrs/wk)

Intersession hours are actual and will not be adjusted.

Graphic Communications Electives	**Cr**	**Le**	**La**
EL1530 Fine Art Printing	3	2	2
GA1741 Textile Graphics & Imaging II	3	2	2
GA2630 Offset Printing III	3	2	2

Graphic Communications is a technology-based, two-year diploma program designed to provide training in modern principles and practices used in the printing and graphic communications industry. A comprehensive hands-on approach ensures that students receive a marketable set of skills within a positive learning environment.

The goal of the program is to help the student develop personal and professional competencies in communications, problem solving, teamwork, electronic pre-press, production technologies, and post-press operations that will help lead to successful employment. The program structure is in line with the national skills standards for the printing and graphic communications industry.

Program topics include: problem solving, basic layout & design, electronic pre-press, wide format printing, offset press operation, post-press operation skills, and screen printing. Students are exposed to the computer software applications commonly used in this industry, such as page layout, design, image manipulation, and computer graphics. Other topics include: digital scanning, colour proofing, digital photography, digital printing (colour and black & white), embroidery graphics and laser engraving.

Our fleet of equipment is constantly being modernized to offer an expanded range of technical skills. Some of our equipment and new additions include:
- Wide format inkjet printer used for display graphics and assembly
- Vinyl cutter for signage, graphics and packaging
- Xerox colour digital press
- Screen printing equipment
- Heidelberg offset presses
- Fine Art Archival Printing
- Embroidery machine
- Laser engraving machine
- Photographic Studio

A program resembling a real-world work environment reinforces the learning process for the students.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:

1. Demonstrate professional and personal competencies required for the printing and graphic communications industry.
2. Demonstrate clear verbal and written communication skills.
3. Apply a teamwork approach to problem-solving techniques.
4. Demonstrate a hands-on knowledge of electronic pre-press methods and equipment.
5. Operate traditional and digital printing equipment.
6. Demonstrate strong technical skills for computer programs used in the printing and graphic communications industry.
7. Demonstrate safe operation of bindery and finishing equipment.
8. Operate related graphic communications equipment such as: wide-format printer, embroidery machine, screen printing machine and laser engraver.

FUTURE OPPORTUNITIES
Graduates of the program may be employed in many areas of the printing and graphic communications industry. Some of the entry-level positions include: design & layout agencies, commercial printers, in-plant printers, government agencies, digital copy centres, sign printers and corporate promotional suppliers.

ENTRANCE REQUIREMENTS
1. High School
Provincial High School Graduation Certificate with a 60% average in nine level 3000 credits or equivalent
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science Transition Certificate
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an average pass mark of 60%
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Note:

Basic computer literacy skills as well as strong core skills in English and Mathematics are definite assets for this program. These skills are important for success in the program.

APPLIED ARTS

Graphic Design
DIPLOMA
- **Two Years**
- **September**
- **Prince Philip Drive Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
CR1535	Web Design I	2	1	2
GA1120	Typography I	2	1	2
GA1170	Graphics Problem Solving	3	3	0
GA1430	Page Composition I	2	1	2
GA1640	Illustration I	3	2	2
PY1200	Photography I	3	2	3
VA1230	Graphic Design I	3	2	3

		Cr	**Le**	**La**
Semester 2				
CM1400	Technical Report Writing I	3	3	0
GA1220	Colour Management	3	3	0
GA1431	Page Composition II	3	2	2
GA1641	Illustration II	2	1	2
MR1340	Marketing for Graphic Design	3	3	0
PY1201	Photography II	3	2	3
VA1231	Graphic Design II	3	2	3

		Cr	**Le**	**La**
Semester 3 (Intersession)				
GA1121	Typography II	2	2	4
GA1180	Graphic Design History	3	6	0
GA1350	Motion I	3	4	6

Intersession hours are actual and will not be adjusted.

		Cr	**Le**	**La**
Semester 4				
CR1531	Web Design II	2	1	2
GA1351	Motion II	3	2	3
GA1520	Image Manipulation I	3	2	2
GA1880	Business Practices	3	3	0
GA2380	Production for Designers	2	1	2
GA2640	Illustration III	2	1	3
PY2200	Photography III	3	2	2

		Cr	**Le**	**La**
Semester 5				
CM2200	Oral Communications	2	2	0
CR2530	Web Design III	2	2	1
GA2350	Motion III	3	2	3
GA2430	Page Composition III	3	2	2
GA2720	Design Management Identity	3	2	2
VA2800	Package Design	3	2	2
Elective*		3	2	2

Semester 6 (Intersession)		**Cr**	**Le**	**La**	
FW1180	Field Placement Preparation	1	1 wk	0	20 hrs/wk
FW2800	Field Placement	4	0	4 wks	35 hrs/wk
FW2801	Field Placement Reflection	1	1 wk	0	20 hrs/wk
Intersession hours are actual and will not be adjusted					
Graphic Design Electives		**Cr**	**Le**	**La**	
EL1530	Fine Art Printing	3	2	2	
GA1521	Image Manipulation II	3	2	2	
PY2201	Photography IV	3	2	2	

Graphic Design is a technology-based two-year program that helps students hone their creativity while learning the cutting-edge design skills needed in today's fast-paced global business environment. Graphic designers develop outstanding solutions for clients in an industry that embraces and rewards great ideas, a passion for excellence, attention to detail and a love of digital technology.

Specifically, students will learn how to:
- Create powerful, inspiring designs that work in a variety of media, from print to screen
- Design and compose flyers, brochures, books and magazines
- Develop eye-catching t-shirts, shopping bags, posters and billboards
- Create logos, illustrations, information and motion graphics
- Design way-finding systems and corporate identities
- Develop animations, websites and interactive projects
- Explore digital photography, package design, signage, traditional and digital printing, and much more

The College's state-of-the-art facilities offer students the chance to gain hands-on experience on industry-standard tools and learn valuable real-world skills. The program's strong technical core, as well as its focus on creative problem-solving, has helped students win dozens of regional, provincial and national awards over the past ten years. Graduates are working at exciting careers throughout Canada and around the world.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:

1. Demonstrate strong technical and conceptual design skills for print and screen.
2. Demonstrate hands-on knowledge of, and experience with, industry-standard design and production tools and equipment.
3. Demonstrate the business, communication, teamwork and time-management skills necessary for this industry.
4. Apply an approach to the design process that focuses on creativity while meeting clients' needs.
5. Successfully compete for entry-level employment in the Graphic Design industry.

FUTURE OPPORTUNITIES
Past graduates have a strong record of success in the Graphic Design industry, both within Newfoundland and Labrador and beyond. Graduates can choose from a variety of employment options such as advertising agencies, design companies and in-house art departments, as well as freelance work or self-employment with clients located anywhere in the world.

ENTRANCE REQUIREMENTS
1. High School
Provincial High School Graduation Certificate with a 60% average in nine level 3000 credits or equivalent
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science Transition Certificate
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an average pass mark of 60%
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Note:
Basic computer skills as well as strong core skills in English and Mathematics are definite assets for this program. These core skills are important for success in the program.

Applicant Portfolio Requirements
All applicants to the Graphic Design program must submit a portfolio as part of the admission requirements. A portfolio is a personal selection of the applicant's work that shows the potential to build on demonstrated skills and aptitudes when in the program.

The applicant portfolio should consist of:

a.   A written personal statement explaining your reasons for wanting to be a graphic designer and your interest in the program at College of the North Atlantic. This should be no longer than 500 words or a single typed page.
b.   One project, that relates to the College's Graphic Design program, chosen from the following three options:
A magazine ad promoting the program. The ad should focus on at least one positive attribute of the program, and should be produced in colour. The College's website address should be included as well. The size of the ad should be no larger than 20 cm in any dimension.

A poster promoting the Graphic Design program. The poster should focus on one positive message about the program, and should include the program name, the College's name and the College's website address. The size of the poster should be 28 cm x 43 cm (11 x 17 inches).

A logo for the Graphic Design program. The logo should be produced in no more than two (2) colours, not including white. The program title (Graphic Design) and the College's initials (CNA) should be part of the logo. Applicants should ensure that the logo suggests one or more of the positive attributes of the program.

c.   A minimum of five (5) personal portfolio pieces, which could include (but are not limited to) drawings and sketches, photographs, paintings, websites, computer-generated images, or motion-based work. It is preferable to submit works in more than one category but it is not required.

Other Requirements

a.   Applicants should submit only copies of their work. No originals should be submitted.
b.   Do not submit any framed, fragile or 3-dimensional work.
c.   If applicants submit digital files, please burn them onto a CD or DVD, and ensure they are readable by a computer other than the one used to burn it. Digital submissions that cannot be opened will not be considered.
d.   The applicant's work should be submitted in a case, binder or folio, with measurements not exceeding 61 cm x 92 cm (24 x 36 inches).
e.   Work included in the portfolio should be identified on a separate sheet with the title (if any), the completion date and the materials used. A brief explanation of each piece would be welcome.

APPLIED ARTS

Journalism

DIPLOMA

• **Two Years**
• **September**
• **Prince Philip Drive Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
CM1100	Writing Essentials	3	3	1
JL1110	Reporting & News Writing I	4	4	0
JL1130	Audio Storytelling	3	2	3
JL1140	Current Affairs	3	3	0
PC1100	Political Science	3	2	2
PY1330	News Photography I	3	2	2
Semester 2		**Cr**	**Le**	**La**
JL1120	Reporting & News Writing II	4	4	0
JL1160	Video Storytelling	4	4	0
JL1581	Digital Journalism	3	2	2
JL1840	Newsroom I	4	2	5
PY1331	News Photography II	3	2	2
Elective		3	3	0
Semester 3 (Intersession-6 weeks)		**Cr**	**Le**	**La**
JL1230	Multiplatform Journalism Project	7	18	0
JL1430	Workplace Professionalism	3	8	0

Intersession hours are actual and will not be adjusted.

Semester 4		**Cr**	**Le**	**La**
CM2200	Oral Communications	2	2	0
JL1170	Advanced Broadcast Journalism	3	2	3
JL1420	Journalism Ethics & the Law	3	3	0
JL1841	Newsroom II	4	2	5
JL2120	Reporting & News Writing III	4	4	0
Elective		3	3	0
Semester 5		**Cr**	**Le**	**La**
CS2340	Introduction to Social Research	3	3	0
EC1120	Understanding the Economy	3	3	0
HY1110	Canada Since 1982	3	3	0
JL1180	Reporting & News Writing IV	4	4	0
JL1190	Newsroom III	4	2	7
JL1210	Freelance Journalism	3	3	0
Semester 6 (Intersession)		**Cr**	**Le**	**La**
FW1210	Field Placement	6	0	6 wks	35hrs/wk
JL1220	Professional Wellness	P/F	1 wk		18hrs/ wk

Electives

Elective/s to be offered in each semester will be made available prior to registration.

In this program, students prepare to work as professional journalists while developing media skills that are transferrable to other professions. The program nurtures their curiosity and enables them to tell stories across several platforms – text, video, audio, photojournalism and the internet. Students learn within a hands-on environment, where they hone their skills as storytellers by producing a news website, radio shows and TV productions. Adapting to the new realities of journalism, students learn to use social and mobile media both to tell stories and to converse with an audience. Students acquire real-world experience via partnerships between the program and professional news organizations.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:

1. Discern newsworthy happenings in their communities and develop them into stories.
2. Tell stories across several platforms – text, video, audio, photography, websites, social media and mobile applications.
3. Perform the writing, research, video, audio and photography skills expected of modern multiplatform journalists.
4. Apply a discipline of verification in seeking and reporting the truth.
5. Provide the context of the news to their audiences.
6. Reflect in their work a deep understanding of the news media, its influence and their own responsibilities as journalists.
7. Reflect in their work a broad understanding of politics, history, economics and current affairs.
8. Apply high ethical standards to their work.
9. Demonstrate a strong understanding of media law in their work.
10. Deliver high-quality journalism on deadline via different platforms within the 24-hour news cycle.

FUTURE OPPORTUNITIES
There are many diverse opportunities for graduate of the Journalism Diploma program. A graduate may choose to become a broadcast journalist or may choose a profession as a freelancer, or a graduate may become gainfully employed while working with various television networks. Online journalism and print media are also options for gainful employment. Further to employment opportunities, graduates may also choose to further their studies towards degree-related opportunities at other post-secondary institutions.

ENTRANCE REQUIREMENTS
1. High School
Provincial High School Graduation Certificate with a 60% average in nine level 3000 credits or equivalent including a minimum of 60% in level 3000 English
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science Transition Certificate
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an average pass mark of 60%
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

APPLIED ARTS

Journalism (Post Diploma)

POST DIPLOMA
- **12 Courses**
- **September**
- **Distributed Learning Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
JL1110	Reporting & News Writing I	4	4	0
JL1130	Audio Storytelling	3	2	3
JL1420	Journalism Ethics & the Law	3	3	0
JL1850	News Production I (Post Diploma)	4	2	5
PY1330	News Photography I	3	2	2
Semester 2		**Cr**	**Le**	**La**
JL1120	Reporting & News Writing II	4	4	0
JL1160	Video Storytelling	4	4	0
JL1581	Digital Journalism	3	2	2
JL1851	News Production II (Post Diploma)	4	2	7
PY1331	News Photography II	3	2	2
Semester 3 (Intersession)		**Cr**	**Le**	**La**
FW1320	Field Placement (Post Diploma)	4	4 wks	35hrs/wk
JL2120	Reporting & News Writing III	4	3 wks	20hrs/wk

Intersession hours are actual and will not be adjusted.

This accelerated program allows students who already have a university degree or a college diploma (minimum two years) to obtain a Journalism Post Diploma.   While the online program provides students with an excellent way to study with the flexibility of not always having to be in a certain place at a certain time, the time requirements as outlined in the listing of courses will need to be considered before choosing the number of courses per semester. Based on the time available to commit to these studies, students may choose to study full-time (approximately an average of 23-25 hours per week during a Fall or Winter Semester) or part-time (approximately an average time as indicated by the hours/week for each course).

It is important to note that during the 7-week Intersession, students will benefit greatly from the required field placement of 4 weeks (35 hours/week) in a professional Journalism workplace setting. During Intersession, students can expect to spend approximately 8 hours weekly on JL 2120 Reporting & News Writing III.

This higher learning option allows students who already possess either a university degree or a college diploma to acquire the core journalism skills necessary to work as professional journalists while developing media skills that are transferable to other professions. The program nurtures their curiosity and enables them to tell stories across several platforms – text, video, audio, photojournalism and the Internet. Adapting to the new realities of journalism, students learn to use social and mobile media both to tell stories and to converse with an audience. Students will acquire real-world experience in the program, particularly through the field placement in a professional Journalism workplace setting.

It is highly recommended that those applying for this program be competent in English language usage and that they possess a general knowledge of current affairs.

OBJECTIVES

Upon successful completion of the program, graduates will be able to:

1. Discern newsworthy happenings in their communities and develop them into stories.
2. Tell stories across several platforms – text, video, audio, photography, websites, social media and mobile applications.
3. Perform the writing, research, video, audio and photography skills expected of modern multiplatform journalists.
4. Apply a discipline of verification in seeking and reporting the truth.
5. Provide the context of the news to their audiences.
6. Reflect in their work a deep understanding of the news media, its influence and their own responsibilities as a journalist.

7. Apply high ethical standards to their work.
8. Demonstrate a strong understanding of media law in their work.
9. Deliver high-quality journalism on deadline via different platforms within the 24-hour news cycle.

FUTURE OPPORTUNITIES
There are many diverse opportunities for graduates of the Journalism Post-Diploma program. Graduates may choose to become a broadcast journalist or may choose a profession as a freelancer, or graduates may become gainfully employed while working with television networks. Online journalism and print media are also options for gainful employment. Further to employment opportunities, graduates may also choose to further their studies towards degree-related opportunities at other post-secondary institutions.

ENTRANCE REQUIREMENTS
A university degree OR a minimum of a two-year college diploma from an institution recognized by College of the North Atlantic (**OR** a combination of other post-secondary work and industry experience acceptable to the college as an entrance requirement)

Sound Recording & Production

DIPLOMA

- **Two Years**
- **September**
- **Prince Philip Drive Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
CM1400	Technical Report Writing I	3	3	0
ET1120	Electronics for Audio	3	3	1
MA1100	Mathematics	5	4	2
MU1130	Music Theory I	3	3	1
SN1160	Sound & Microphones	4	4	0
SN2200	Recording I	3	3	0
Semester 2		**Cr**	**Le**	**La**
CM1401	Technical Report Writing II	3	3	0
MM2340	Digital Audio Workstations	3	2	2
SN1170	Music Production Techniques	3	2	2
SN2140	Acoustics & Studio Design	3	2	2
SN2201	Recording II	4	3	2
Elective Minimum credit value of 3		3	3	0
Semester 3 (Intersession)		**Cr**	**Le**	**La**
SN1180	Exploring Your Industry	3	6	0
SN1410	Stage Lighting	3	4	4
SN3100	Live Sound Production	4	6	4

Intersession hours are actual and will not be adjusted.

CODE	TITLE	Cr	Le	La
Semester 4		**Cr**	**Le**	**La**
CP1923	Computer Hardware & Troubleshooting	4	3	3
EP1100	Entrepreneurial Studies	4	3	2
SN1200	Music Business	3	3	0
SN2110	Mixing & Mastering	3	2	2
SN2120	Sound in Practice I	3	2	2
SN2420	Sound for Visual Media	4	3	2
Semester 5		**Cr**	**Le**	**La**
HR1120	Human Relations	4	4	0
MU2110	Instruments	3	3	0
SN1190	Electronic Music Production	3	3	0
SN2130	Career Management	3	3	1
SN2150	Sound in Practice II	3	2	4
Elective	Minimum credit value of 3	3	3	0

Note:

Electives to be offered in each semester will be made available prior to registration. Other courses may be chosen provided that:

1. All prerequisites have been met,
2. The course is offered during the semester,
3. The maximum enrolment for the course is not exceeded,

The student's schedule can accommodate all scheduled classes for that course.

Sound Recording & Production is a two-year diploma program designed to provide training in all areas of sound production. This includes training in: live sound, music production and recording, mixing and mastering, digital audio editing, signal processing, field recording and sound design, live concert recording, and audio for the film, video, animation and gaming industries.

In the first year of the program, most of the core theory is covered along with some practical and hands-on components. In the second year, students will find themselves in a project-rich environment where they have many opportunities to further develop their knowledge and skills through practice and mentorship.

As well as the core courses in sound production, the student will learn business and entrepreneurial knowledge and skills, career management and exploration, electronics basics, acoustics, computer troubleshooting, technical writing, stage lighting and more. This extensive hands-on experience will fully prepare the graduate for employment in any of the numerous exciting occupations found in the sound recording and production industry.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:

1. Explain the concept of sound, including its generation, transmission and effects, and apply that knowledge to select appropriate tools for its capture in a myriad of situations.
2. Analyze sound and lighting equipment requirements for live sound events, prep and connect all required equipment and use the equipment successfully in running the event from a technical perspective.
3. Intelligently speak the language of music when interacting with musicians in live sound and recording environments.
4. Demonstrate proficiency in Digital Audio Workstation applications, including editing and signal processing.
5. Apply logic and deductive reasoning to fix problems.
6. Demonstrate proficiency in analog signal processing required by clients in any field of music, video production, video game design, feature film and live sound industries.
7. Demonstrate safe working practices in lighting and various sound production environments.
8. Use entrepreneurial and personal finance skills to help establish recording studios and live sound companies, and run these operations successfully.
9. Negotiate standard working contracts.
10. Demonstrate competencies in writing technical documents.

FUTURE OPPORTUNITIES
Graduates of the Sound Recording & Production program can find work as the following in their appropriate venues: Production Mixer, Boom Operator, Production Sound Assistant, Sound Transfer Operator, Dialogue Editor, Sound Effects Editor, Music Editor, Assistant Sound Editor, ADR/Sound Effects Mixer, Music Mixer, Re-recording Mixer (Film Mixer), Sound Designer, Front of House Mixer, Monitor Mixer, System Technician, Mixing Engineer, Mastering Engineer, Tracking Engineer, Music Producer, Foley Artist and On-Air Production (Radio).

1. High School
Provincial High School Graduation Certificate with a 60% average in nine level 3000 credits or equivalent including:
i. Mathematics (4 credits) chosen from:
  Advanced: 2200, 3200 (50% in each course)
  Academic: 2201 (50% minimum), 3201 (60% minimum)
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science Transition Certificate with the following courses:
Math Fundamentals MA1040 and MA1041
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) including the following courses:
Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Please Note:
1) Students who do not meet the entrance requirements as a result of their Mathematics courses and grades should explore options that may be available to them through the Comprehensive Arts & Science (CAS) Transition – Mathematics courses.
2) Within the program, particularly for MM2340, as well as for moving forward in this career, students will need a pair of professional, closed back headphones with a 1/4" connector.

Textile & Apparel Design

DIPLOMA
- **Two Years**
- **September**
- **Prince Philip Drive Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
GA1130	Digital Design Fundamentals	2	2	1
HY1105	Art History	3	3	0
TX1100	Fibre & Fabric Exploration	5	4	2
TX1200	Introduction to Sewing	3	2	2
VA1100	Introduction to Drawing	2	2	1
VA1200	Elements of Design	3	3	0
VA1400	Colour Theory	3	2	2
Semester 2		**Cr**	**Le**	**La**
HY1200	Craft History	3	3	0
TX1220	Fabric Design I	3	2	4
TX1225	Surface Design I	3	2	4
TX1400	Apparel Design I	3	2	2
VA1101	Drawing Application	3	3	1
VA1201	Principles of Design	3	3	0
Semester 3 Intersession		**Cr**	**Le**	**La**
CG1400	Production Fundamentals	4	6	6
CM1521	Writing for the Arts	3	6	0
TX1210	Industrial Sewing	3	4	4

Intersession hours are actual and will not be adjusted.

CODE	TITLE	Cr	Le	La
Semester 4		**Cr**	**Le**	**La**
EP1100	Entrepreneurial Studies	4	3	2
TX2100	Art Marketing	3	3	0
VA2100	Intermediate Drawing	3	3	0
VA2250	Application of Design Theory I	3	3	1

Studio Areas - Students select two areas from the following:

CODE	TITLE	Cr	Le	La
ST2400	Apparel Design II	4	3	3
ST2450	Fabric Design II	4	3	3
ST2455	Surface Design II	4	3	3

CODE	TITLE	Cr	Le	La
Semester 5		**Cr**	**Le**	**La**
CM1530	Proposal Writing	3	3	0
PD2110	Project Coordination	3	2	2
VA2101	Advanced Drawing	3	3	0
VA2251	Application of Design Theory II	3	3	1

Studio Areas - Students select two areas from the following:

CODE	TITLE	Cr	Le	La
ST2401	Apparel Design III	4	3	3
ST2460	Fabric Design III	4	3	3
ST2465	Surface Design III	4	3	3

Semester 6 Intersession	Cr	Le	La
PD2150 Project Implementation	6	8	16

Intersession hours are actual and will not be adjusted.

Textile & Apparel Design provides students with an opportunity to learn and create one-of-a-kind textile and apparel products through drawing, design, textile and apparel practices. Individuals with creative and artistic interests in fashion and design will gain important technical design skills and knowledge of the integral relationships among fabric, surface and apparel design.

In the program, students will nurture an appreciation for the handcrafted product with the use of natural and sustainable materials. In fabric design, students will create fabric through knit, weave and felt. In surface design, they will explore hand sewing, embroidery, quilt, print, dye, and rug hooking. In apparel design, they will design and create clothing and accessories using hand-sewing skills, machine sewing and garment construction techniques, while exploring the exciting world of fashion and apparel.

Different media and techniques are introduced in the first year of the program. Innovation and creativity are encouraged through contemporary application of traditional skills and the incorporation of innovative materials into project ideas. The relationship between a maker's intent and content will form, through discourse in contemporary and traditional practice. Technical and critical skill development will occur in progression throughout the program.

The program is designed to offer innovative training that reaches beyond the classroom with an emphasis on experiential learning during fine craft and design fairs, wholesale trade shows, gallery exhibitions, and a fashion show. The program is supported by courses in colour theory, digital design, art and craft history, communications, entrepreneurial studies, art marketing development and proposal writing. The second year is an opportunity to focus studies and further develop design and technical skills when students choose two out of the three studio areas: fabric design, surface design or apparel design. Second-year students will also enrich their learning through courses in project coordination and implementation.

Graduates of the Textile & Apparel Design program will gain the solid foundation necessary to begin building a career as an independent artist, a production craftsperson, or as an employee in the craft and apparel industry. The program also offers graduates a solid foundation for exploring higher learning opportunities.

OBJECTIVES
Upon completion of this program, graduates will be able to:

1. Create aesthetic, functional, and innovative designs and products in the textile and apparel industry.
2. Integrate learned skills and techniques in fabric, surface and apparel design towards building a career as a professional artist.
3. Solve textile and apparel design issues through research and critical analysis.
4. Apply personal style and media choices in the creation of drawings, which support conceptual and technical design work.
5. Contribute to and enrich the quality, standards and professionalism of the textile and apparel industry.
6. Utilize effective communication techniques while promoting oneself in a professional manner as an emerging artist or designer.
7. Write professional proposals, grant applications, work reviews, and critiques.
8. Employ entrepreneurial skills, art marketing and self-promotion during events such as gallery exhibitions, fashion shows, craft fairs, wholesale trade shows, workshops and conferences.
9. Plan, develop, monitor and implement a successful textile and/or apparel-based event.
10. Express the importance of the relationship between traditional and contemporary craft and art within individual studio practice.

ENTRANCE REQUIRMENTS

1. High School
Provincial High School Graduation Certificate with a 60% average in nine level 3000 credits or equivalent
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science Transition Certificate
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an average pass mark of 60%
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program must be at least 19 years of age at the time of application and out of school for at least one year to be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Note: This program is not suitable for applicants with respiratory problems or colour blindness.

FUTURE OPPORTUNITIES
Working within the field of textile and apparel design offers rewarding opportunities and work experiences. Graduates of the Textile & Apparel Design program may become employed within the craft and fashion industry, which is inclusive of textile and apparel. Not only are graduates employed in their immediate area of skill and with various employers in full-time, part-time and contractual employment, but they also may become self-employed. Graduates of this program may find gainful employment working with art galleries, and during film/theatre productions.

Video Game Art & Design

DIPLOMA

- **Three Years**
- **September**
- **Distributed Learning Campus**

COURSES

CODE	TITLE	Cr	Le	La
Semester 1		**Cr**	**Le**	**La**
CM1100	Writing Essentials	3	3	1
GD1130	Game Design Theory	3	3	0
HY1120	Prehistory to Renaissance	3	2	2
PY1150	Photography	3	2	2
VA1110	Drawing Methods & Media	3	2	2
VA1115	2D Design	2	1	2
VA1400	Colour Theory	3	2	2
Semester 2		**Cr**	**Le**	**La**
CM1521	Writing for the Arts	3	3	0
GD1120	Storytelling in Games I	3	3	0
GD1140	Serious Games Theory	3	3	0
HY1130	Renaissance to 20th Century	3	2	2
VA1120	Digital Imaging	3	2	2
VA1140	Figure Drawing	3	2	2
VA1170	3D Design	3	2	2
Semester 3		**Cr**	**Le**	**La**
CM2200	Oral Communications	2	2	0
GD1150	Game & Level Design I	4	3	2
GD1160	Art for Games I	4	3	3
GD1170	Sound Design for Games	3	2	2
GD1180	Game Industry Professionalism	3	3	0
MC1140*	Digital Literacy in the Workplace	3	2	2

Note: MC1140 Digital Literacy in the Workplace is currently under review

CODE	TITLE	Cr	Le	La
Semester 4		**Cr**	**Le**	**La**
CM1400	Technical Report Writing I	3	3	0
GD1600	Business of Game Development	3	3	0
GD2110	Game & Level Design II	4	3	3
GD2120	Art for Games II	4	3	3
GD2130	Storytelling in Games II	3	2	2
Elective*		3	3	0
Semester 5 (Intersession)		**Cr**	**Le**	**La**
GD2140	Game & Level Design III	4	6	6
GD2150	Art for Games III	3	4	4
GD2160	QA & Playtesting for Games	2	4	0

Intersession hours are actual and will not be adjusted.

CODE	TITLE	Cr	Le	La
Semester 6		**Cr**	**Le**	**La**
GD3100	Game & Level Design IV	4	3	3
GD3110	Art for Games IV	4	3	3
GD3120	3D Game Character Design	4	3	3
GD3130	Visual Narrative for Games	3	2	2
Elective*		3	3	0

Semester 7   Cr   Le   La
EP1100   Entrepreneurial Studies   4   3   2
GD3140   Game & Level Design V   4   3   3
GD3150   Interactive Storytelling   3   3   0
GD3160   Portfolio for the Game Industry   3   2   2
GD3170   Art for Games V   4   3   3

Semester 8 (Intersession)   Cr   Le   La
GD3180   Game Design Capstone Project   7   8   16

Intersession hours are actual and will not be adjusted.

*Note:
Electives to be offered in each semester will be made available prior to registration. Other courses may be chosen provided that:

1. All prerequisites have been met,
2. The course is offered during the semester,
3. The maximum enrolment of the course is not exceeded,
4. The student's schedule can accommodate all scheduled classes for that course.

Video games have emerged as an interactive medium that engages society at every level, from action-oriented entertainment and immersive storytelling, to educational games, simulation, and workplace training. There is a wide range of diverse and exciting career opportunities waiting for talented and well-trained game designers, artists, and testers.

The Video Game Art & Design program at College of the North Atlantic offers an artistic approach to game development, beginning with the essentials of art and design. Students will then move on to designing and creating playable games using popular game engines without the need for programming knowledge. A strong focus is applied to the narrative aspect of game design, bringing engaging storytelling to interactive experiences. Writing detailed design documentation is also practiced. 2D and 3D games are brought to life with original artwork including pixel art, 3D models, animation, detailed textures, user interface, and special effects. Dynamic game levels will be created from the early stage of floor plan designs to the development and wonder of virtual game worlds, ready to navigate and explore. Immersive game projects will be heightened through the recording and editing of audio and video, providing soundscapes and cinematic experiences. The important studies of business, project management, professionalism, and teamwork will provide an understanding of how the industry functions and how to become a valuable and successful member of a collaborative game development project.

This program provides an extensive practice of the design and artistic approaches to video game development, opening several avenues into the game industry. Students will graduate from the program with a competitive portfolio of original games, written documentation, and art assets, as well as a deep knowledge of the practices of game design and development. A high value is placed on professional development, which prepares graduates for careers in related industries, and entrepreneurship is a potential path for graduates who aim to make their mark as innovative and independent game developers. The practices of professional behavior, software skills, personal branding, and work ethic are all highly transferrable skills attained by graduates of this program.

OBJECTIVES:
Upon successful completion of the program, graduates will be able to:

1. Understand and utilize the theory, practices, computer software, and hardware resources needed to create video game art and design.
2. Demonstrate appropriate attitudes, behaviours, and work practices for employment in the game industry and other areas of media development.
3. Utilize effective visual, oral and written communication skills, and continue to grow personally in one-on-one communications.
4. Promote their work through portfolio development.
5. Work productively in a collaborative team environment.
6. Appreciate the role of history and art history as game art and design references.
7. Cultivate a desire for life-long learning.
8. Design original video games, art, and narrative for games.

FUTURE OPPORTUNITIES:
There are many diverse opportunities for graduates of the Video Game Art & Design program. **Graduates may choose from an array of different exciting careers, including, but not limited to:** Quality Assurance Game Tester, Game Producer, Game Designer (entertainment, education, training and simulation, etc..), Level Designer, Writer for games and related media, Concept Artist for games and related media, 2D and 3D Asset Artist for games and related media, 3D Modeller for simulation, Texture Artist for games and related media, Character Modelling for games and related media, Graphic Interface Designer, Animator for games and related media, Sound Designer for games and related media, Cinematographer for games and related media*, Entrepreneur for media design, Marketing and Promotions for games and related media.

*Related media includes film, digital animation, visual arts, graphic arts, simulation, music and audio production, etc.

ENTRANCE REQUIREMENTS
Eligibility for admission to the Video Game Art & Design program requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Certificate with a 60% average in nine level 3000 credits or equivalent
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (CAS) Transition Certificate
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an average pass mark of 60%
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
Note: It is highly recommended that those applying for the Video Game Art & Design program have an appreciation for drawing and creating art, basic computer skills as well as strong core skills in English and writing.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

PORTFOLIO REQUIREMENTS:
All applicants to the Video Game Art & Design program must submit a portfolio as part of the admission requirements. A portfolio is a collection of the applicant's work, based on detailed guidelines as described below, that shows the potential to build on demonstrated skills and aptitudes when in the program.

The applicant portfolio should consist of:

1. An essay which consists of a written personal statement explaining your reasons for wanting to be a video game artist and/or designer, your goals, and your interest in the program at College of the North Atlantic. This should be approximately 300 to 400 words.
2. A written work of creative fiction using the provided content guidelines described below. The story must be written within 600 to 1000 words (no more, no less). Be sure the story has a beginning, a climactic middle, and an ending.
3. Two pieces of art as described below by the College's Video Game Art & Design program portfolio entry detailed guidelines.

Portfolio Entry – Detailed Guidelines

All applicants to the Video Game Art & Design program must submit the specific, assigned writing and art samples to fulfil additional program entry requirements. The additional entry requirements should consist of:

1. **An essay** which consists of a written personal statement explaining your reasons for wanting to be a video game artist

and/or designer, your goals, and your interest in the program at College of the North Atlantic. This should be approximately 300 to 400 words.

Present your document as follows:
- The document must be delivered in a digital format or printed on paper from a digital format (not hand written).
- Write it in a font of Times New Roman at a font size of 12, double spaced
- Title the document: **VGAD Essay by "your name"**
- Set only the title in a bold font, no cover page
- Proper articulation of content and writing mechanics are expected and presented in paragraph form (grammar, spelling, syntax, structure, etc.)
- Save the document as a common digital file type (docx, doc, rtf) with your last name in the file name, for example: Smith_Essay.rtf
- If word processing software is unavailable, providing the content within the body of an email is acceptable. Additionally a physical, typed print-out can be mailed.

2. A fictional, creative story writing assignment using the provided content guidelines. The story must be written within 600 to 1000 words (no more, no less). Be sure the story has a beginning, a climactic middle, and an ending.

Content to be included:

Main Protagonist Character: A scientific investigator.

Main Setting: The distant future on another planet at a ruined human outpost.

Main Antagonist: An alien entity.

Main Plot: Humans have been exploring the cosmos for planets to call home. Contact with some planetary outposts have either ceased or are very strange. A small team of humans, led by the protagonist, investigate one of the sites to find it devastated and in the process uncover a formidable alien presence that appears to be cause. The protagonist leads the charge to identify the real problem and solve the situation.

Character Dialogue: Include some sections of character dialogue within the story.

There is much room to present original creativity within the given guideline of content such as who the characters are, what they look like, describing the setting, the action, introducing more characters, and ultimately which direction the story goes. This prompt can be interpreted in many ways and can produce several different outcomes from one writer to the next. For example, why are humans looking for a new home? What really happened at the outpost? Is the alien presence good or bad? Your goal is to be creative, add depth to this brief outline, and to be descriptive in a manner that your words can inspire a visual image within the reader's imagination. Try to connect with the reader on an emotional level by providing meaningful storytelling.

Present your document as follows:
- The document must be delivered in a digital format or printed on paper from a digital format (not hand written).
- Write it in a font of Times New Roman at a font size of 12, double spaced.
- Title the document: **VGAD Story by "your name"**
- Set only the title in a bold font
- Proper articulation of content and writing mechanics are expected (grammar, syntax, structure, etc.)
- Save the document as a common file type (doc, docx, or rtf) with your last name in the file name, for example: Smith_Story.rtf
- If word processing software is unavailable, providing the content in an email is acceptable.

3. Two pieces of art as outlined below by the College's Video Game Art and Design program.

Present your document as follows:
- Please sign and date each piece.
- Please include PHOTOCOPIES or DIGITAL COPIES ONLY, as the portfolio will not be returned.
- All submissions must be your own work. Any submission that contains plagiarized work, copied either manually or electronically, will be disqualified and you will be refused consideration.
- Any submission that contains inappropriate or offensive content will be refused consideration.

- ENSURE THAT YOUR NAME IS ON EACH OF THE CLEARLY LABELLED PIECES.
- Additional drawings or game ideas will not be accepted, viewed, or considered.
- Art submissions should show the applicant's current level of proficiency in the visual arts.
- All observational drawings are to be executed from real-life subject material, not from photographs, images, artwork, or other drawings.
- Drawings must be made on 8.5 x 11 sheets of plain white paper.

3a.   Pencil sketch of a landscape (not based on images or photos). You may draw this from inside, looking out a window and it may include a building structure. Suggested time for completion of the final drawing, not including practice sketches: 30 – 60 minutes.

3b**.**   Pencil or color pencil drawing of a real toy such as an action figure, collectible statue, video game console controller, teddy bear, or vehicle (not based on images or photos). The full view of the toy is visible in the drawing. Suggested time for completion of the final drawing, not including practice sketches: 30 – 60 minutes.

View the Application Portfolio Rubric for this program (57KB PDF)

HOW DO I SUBMIT THESE ADDITIONAL ADMISSION REQUIREMENTS?

a.   Applicants should submit only copies of their artwork, such as a photocopied drawing, or a digital scan of the drawing. No originals should be submitted. Include applicant name and contact information.
b.   Do not submit any framed, fragile or 3-dimensional work. Take a photo and submit that instead. Include applicant name and contact information.
c.   If applicants submit digital files, please burn them onto a disk to include with the application, or email the images and include applicant name and contact information.
d.   Any physical photocopies or printed pages of work on paper should be submitted in a 9 "x12" envelope and identified with applicant name on each page. Include applicant name and contact information within.
e.   Each item included should be identified with an applicant name and date, and entry requirement number at the bottom of the page. Include contact information.

Please note: We emphasize that while advanced levels of writing, drawing, and computer skills may be an asset, they are not necessary, nor a guarantee for admission to the program.

Cultural Culinary Arts & Tourism
ADVANCED DIPLOMA
• **Two Years**
• **September**
• **Bonavista Campus**
• **Joint Program Offering - Cook program September 2021; Cultural Culinary Arts & Tourism program September 2022**

YEAR 1 - Refer to Cook Entry Level (Block 1) http://www.cna.nl.ca/program/cook

YEAR 2 COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
HM1120	The Culinary Manager	2	2	1
HM1140	Culinary Tourism Business	2	2	0
HM1160	Culinary Tourism Experiences	2	1	3
HM1260	The Business of Food	3	2	2
HS1360	Intro to Cultural Cuisine	4	1	8
HS1370	Fall: Grow & Cook Local	3	1	5
Semester 2		**Cr**	**Le**	**La**
CM2200	Oral Communications	2	2	0
HM1330	Creating Cultural Menus	3	2	4
HS1171	Winter: Grow & Cook Local	3	1	5
HS1361	Intermed Cultural Cuisine	3	1	7
HS1380	Food & Beverage Service for Chefs	2	2	1
MR1170	Culinary Tourism Marketing	2	2	1
Semester 3 Intersession		**Cr**	**Le**	**La**
HS2170	Spring: Grow & Cook Local	2	1	3
HS2360	Advanced Cultural Cuisine	2	0	5
PR1200	CCAT Capstone Project	2	1	4

Note: Lecture and Lab hours will be doubled during the Intersession only.

College of the North Atlantic (CNA) is excited to offer a joint program of Cook, and Cultural Culinary Arts & Tourism (CCAT) at our Bonavista campus. This offering in Bonavista will allow students to develop their culinary skills in a prime tourism destination where culture, history, place and cuisine come together to create unique opportunities.

College of the North Atlantic currently provides training in the culinary sector by offering training in the Cook apprenticeship program at other campuses. The Cook program will be offered at Bonavista, and Cook graduates will transition to the other component of this joint program offering by enrolling in the Cultural Culinary Arts & Tourism program in the second year. This joint program expands on the basic technical knowledge acquired in the pre-employment Cook program and advances into unique cultural food preparation and developing relationships between the cultural and culinary sectors of the tourism industry.

Interested persons can apply online to the Cultural Culinary Arts & Tourism joint offering program offered at Bonavista. These applicants will do the Cook program in the first year (commencing September 2021) and will be conditionally accepted into the Cultural Culinary Arts & Tourism program for the second year (commencing September 2022) of the joint offering (pending successful completion of the Cook program). Other applicants with a certificate, diploma or degree in the area of Cooking or Culinary Arts may be considered for eligibility for the second year only if space permits in September 2022.

Graduates who successfully complete the first and second year of this joint offering will receive two parchments – a Certificate for the successful completion of Cook and an Advanced Diploma for the successful completion of Cultural Culinary Arts & Tourism.

CNA is very pleased to introduce this exciting joint program offering that will allow graduates to possess the skills and training necessary to meet the cultural culinary and tourism needs in the province!

PROGRAM DESCRIPTION
Culinary tourism and cultural tourism are two of the fastest growing sectors in the hospitality tourism industry in North America. The Cultural Culinary Arts & Tourism program connects culture and food, and provides students with the opportunity to acquire skills to create unique and memorable culinary experiences that capitalize on the unique cultural heritage of various destinations. Students will gain an understanding of the important role food can play in providing people with an introduction to the heritage and culture of destinations. Students will also gain an appreciation of the importance of the supply chain in creating successful culinary tourism experiences. Graduates will be well positioned and prepared to support an ever expanding cultural-culinary field and exploit entrepreneurial opportunities.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:

1. Develop a cultural culinary tourism experience.
2. Implement a cultural culinary tourism experience.
3. Access local foods and food products.
4. Market local foods and food products.
5. Cook and present local foods in a cultural culinary tourism experience.
6. Create a cultural culinary tourism product.
7. Demonstrate advanced culinary skills in the production of culturally significant foods.
8. Demonstrate the technical skills and proficiency in computer software to create cultural menus.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment provincially, nationally and internationally in food establishments, hotels and private tourism business operations including bed and breakfasts, resorts and on cruise ships.

ENTRANCE REQUIREMENTS
Year One (Cook program): Applicants must meet the entrance requirements to CNA's Cook program offering.
Year Two (Cultural Culinary Arts & Tourism): Graduation from a recognized College or University with a certificate, diploma or degree in the area of Cook or Culinary Arts.

TOURISM

Tourism & Hospitality

CERTIFICATE/DIPLOMA

• **One/Two Years**
• **September**
• **Prince Philip Drive Campus**
• **Alternate Year Intake**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
CM1450	Writing Fundamentals for the Workplace	3	3	0
HS1740	Hotel Operations	3	3	1
MA1160	Practical Mathematics	3	3	0
MR1270	Customer Service	3	3	0
TR1610	Introduction to Tourism & Hospitality	4	4	0
TR1600	Newfoundland and Labrador Tourism Destinations	4	3	2
TR1110	Tourism & Technology	2	2	1
Semester 2		**Cr**	**Le**	**La**
CM1200	Oral Communications	3	3	0
CM2100	Workplace Correspondence	3	3	0
HS1131	Dining Room Operations	4	3	4
HS1340	Bar & Beverage Operations	3	2	2
MC1850	Spreadsheet Applications	1	0	2
TR1100	Cultural Tourism & the Arts	3	3	0
TR1120	Professional Certifications I	P/F	3	0
Semester 3 (Intersession)		**Cr**	**Le**	**La**
FW1130	Field Placement I	6	6wks	
Intersession hours are actual and will not be adjusted.				
Semester 4		**Cr**	**Le**	**La**
AC1120	Computerized Bookkeeping I	4	3	2
HM2210	Tourism Marketing	3	3	0
HM2280	Hospitality Supervision	4	4	0
HM2420	Hospitality Facilities Management	4	4	0
HR2410	Professional Development	2	2	1
LW1130	Tourism Law	4	4	0
TR1130	Professional Certifications II	P/F	3	0
Semester 5		**Cr**	**Le**	**La**
HM2150	Food & Beverage Management	4	3	2
HM2160	Cost Control	4	4	0
HM2521	Events Management	5	4	2
HN1200	Human Resource Management	3	3	1
HS1530	Tourism Trends & Issues	3	3	0
Elective*(minimum credit value of 3)		3	3	0
Semester 6 (Intersession)		**Cr**	**Le**	**La**
FW1140	Field Placement II	6	6wks	

Intersession hours are actual and will not be adjusted

*Elective Courses:
Electives to be offered in each semester will be made available prior to registration. Other courses may be chosen provided that:

1. All prerequisites have been met,
2. The course is offered during the semester,
3. The maximum enrolment for the course is not exceeded, and
4. The student's schedule can accommodate all scheduled classes for that course.

Tourism & Hospitality Services Certificate courses are those listed in Semesters 1, 2, and 3 above.

The Tourism & Hospitality programs are looking for "people-oriented" individuals with a desire to work in a fast-paced environment. Tourism is the world's fastest growing industry and a dynamic part of our economy as Canada's 5th largest employer with 1 of every 10 people in Canada working in the tourism industry. There are 1.7 million people employed in tourism-related occupations in Canada and that number is projected to hit 2.12 million by 2025. It is estimated that by 2030, labour shortages in the Canadian Tourism sector will expand to 228,500 jobs (Canadian Tourism Human Resource Council 2012). There are over 400 different tourism career opportunities, and an increasing demand for management level personnel.
Choose a career today in the diverse and dynamic tourism industry!

Flexible schedules and shift work are integral parts of this occupation. Students should be prepared for this and other physical demands within the program and industry. Students with food allergies and sensitivities to environmental conditions, please be aware that frequent exposure to substances may affect these sensitivities.

TOURISM & HOSPITALITY MANAGEMENT - DIPLOMA
Prepare for management and leadership roles in the major industries of tourism: accommodations, food & beverage, recreation & entertainment, transportation and travel services with a Tourism & Hospitality Management diploma awarded to students who successfully complete the two-year program. The first year of the Tourism & Hospitality Management diploma is a common year with the Tourism & Hospitality Services certificate. In the second year of the program, students are further prepared for careers that may quickly lead to supervisory and management roles in the major industries of tourism.

The emphasis of the Diploma program is acquiring the necessary supervisory and management skills required in the global tourism industry. The program provides students with practical, theoretical and experiential learning, field trips and two six-week field placements. Students will attain the skills, competencies, and attitudes necessary to manage expanding and increasingly sophisticated tourism operations. Students develop excellent teamwork, decision-making, critical thinking, communication, and leadership skills throughout the program. They are also exposed to human resources, marketing, law, events, facilities, and food and beverage management methodologies and current industry trends.

The curriculum is designed to meet the standards established by the Canadian Tourism Human Resource Council and the provincial tourism industry. Graduates of this program pursue careers with a wide variety of tourism organizations, agencies or associations dedicated to tourism such as government and non-government agencies, community and tourism development associations, resorts, cruise ships, restaurants, and hotels, while working as a destination developer, tour guide, event planner, restaurant or bar manager, manager of a hotel or international resort, or employee for an airline or cruise ship. Graduates may also decide to take the entrepreneurial route and start their own businesses.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:

1. Summarize the role and social, cultural and economic importance that tourism has in society.
2. Discuss the tourism industry sectors and interpret their interdependence.
3. Explain the various components of the tourism industry and how these components work together.
4. Communicate effectively and with confidence with peers, staff and customers in person, on the telephone, and via email or social media.
5. Demonstrate effective interpersonal and customer service skills in a professional manner.
6. Demonstrate management skills in leadership, team building and problem solving.
7. Contribute to the effective daily operations of a tourism business as a talented team member.
8. Perform all duties for front-line positions to prepare for possible management roles in tourism businesses.
9. Develop strategies to establish working relationships with clients and suppliers in order to maintain and strengthen their loyalty to the business.
10. Apply accounting and financial knowledge and skills, including cost control techniques, to the operation of a tourism business.
11. Apply operation and management principles to a tourism business.
12. Create memorable authentic tourism experiences to engage customers.

FUTURE OPPORTUNITIES

The growth of the tourism sector globally offers exciting employment opportunities throughout the world, and graduates will be well qualified to seek opportunities provincially, nationally and internationally. Graduates of this diploma program should have medium-term career goals that include junior supervisory and supervisory positions, and long-term goals such as departmental or facility management. Employment opportunities exist as tourism and hospitality professionals in front-line or managerial positions with corporations, non-profit tourism organizations, tourism associations, hotels, resorts, attractions, and private businesses.

CERTIFICATIONS

Students in the Tourism & Hospitality Management Diploma program are required to complete nine certifications during their two-year program. These certifications are included in TR1120 – Professional Certifications I & TR1130 – Professional Certifications II.

Note: Students should be aware that additional fees apply for the certifications, field trips and tours. Additional expenses will be incurred for the purchase of items of clothing which are required for the program.

TOURISM & HOSPITALITY SERVICES – CERTIFICATE

The Tourism & Hospitality Services program focuses on tourism knowledge and skills with an emphasis on the core skills and characteristics of the accommodations, and food and beverage industries. The food and beverage services industry is the largest employer, accounting for 54% of all jobs in tourism industries. Students are required to complete semesters 1, 2 and 3 which includes a six-week field placement that will provide valuable work experience and additional knowledge of what is required to successfully compete in this sector. Graduates with the Tourism & Hospitality Services certificate can expect to obtain staff positions with hotels as front desk agents, in housekeeping, and as servers and bartenders in food service operations or in tourism businesses or organizations.

OBJECTIVES

Upon successful completion of the certificate program, graduates will be able to:

1. Explain the role and social, cultural and economic importance that tourism has in society.
2. Identify the tourism industry sectors and explain their interdependence.
3. Explain the various components of the tourism industry and how these components work together.
4. Communicate effectively and with confidence with peers, supervisors and customers in person, on the telephone, and via email or social media.
5. Demonstrate entry-level skills in front office, housekeeping, and food and beverage.
6. Demonstrate effective interpersonal and customer service skills in a professional manner.
7. Contribute to the effective daily operations of a tourism and hospitality organization or business as a skilled team member.

FUTURE OPPORTUNITIES

The growth of the tourism sector globally offers exciting employment opportunities throughout the world, and graduates will be well qualified to seek opportunities within tourism and hospitality services provincially, nationally and internationally. Graduates of this certificate program should have career goals for entry-level employment and will be able to seek employment with hotels and other tourism establishments in positions such as front desk agents, in housekeeping, and as servers and bartenders in food service operations.

CERTIFICATIONS

Students in the Tourism & Hospitality Services certificate program are required to complete five certifications during their one-year program. These certifications are included in TR1120 – Professional Certifications I.

Note: Students should be aware that additional fees apply for the certifications, field trips and tours. Additional expenses will be incurred for the purchase of items of clothing which are required for the program.

ENTRANCE REQUIREMENTS

Eligibility for admission to the Tourism & Hospitality requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Diploma with a 60% average in nine Level 3000 credits or equivalent
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science Transition Certificate
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an overall average pass mark of 60%.
4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

PLEASE NOTE: Basic computer literacy skills, as well as strong core skills in English and Mathematics are definite assets for this program. These skills are important for success in the program.

Tourism & Hospitality Services
CERTIFICATE
- **Two Years**
- **October**
- **Distributed Learning Campus**

2021 - 2022

October to December 2021
COURSES
CODE   TITLE

MODULE 1: Introduction to Tourism	Cr	Le	La
CM1450 Writing Fundamentals	3	3	0
TR1600 Newfoundland and Labrador Tourism Destinations	4	3	2
TR1610 Introduction to Tourism & Hospitality	4	4	0

January to April 2022
MODULE 2: Tourism & Technology I
COURSES

CODE TITLE	Cr	Le	La
MA1160 Practical Mathematics	3	3	0
MC1850 Spreadsheet Applications	1	0	2
TR1110 Tourism & Technology	2	2	1

April to June 2022
MODULE 3: Customer Service & Accommodations
COURSES

CODE TITLE	Cr	Le	La
HS1740 Hotel Operations	3	3	1
MR1270 Customer Service	3	3	0

2022 - 2023

October to December 2022
MODULE 4: Communications & Cultural Tourism
COURSES

CODE TITLE	Cr	Le	La
CM1200 Oral Communications	3	3	0
CM2100 Workplace Correspondence	3	3	0
TR1100 Cultural Tourism & the Arts	3	3	0

January to April 2023
MODULE 5: Food & Beverage Services
COURSES

CODE TITLE	Cr	Le	La
HS1131 Dining Room Operations	4	3	4
HS1340 Bar & Beverage Operations	3	2	2
TR1120 Professional Certifications I	P/F	3	0

MODULE 6: Practicum
COURSES

CODE TITLE	Cr	Le	La
FW1130 Field Placement I	6	6 wks	

*Note:
- FW1130 - Field Placement I offered in Tourism & Hospitality Services has prerequisite requirements. Please view the course description by clicking on the course code in the 2021-2022 Program Guide (https://www.cna.nl.ca/programs-courses) for more information.

Modules/courses in the Tourism & Hospitality Services certificate program will be available via Distributing Learning Service over a two-year period so that those who are working in the tourism industry or are interested in taking courses in this dynamic and growing field can do so in an alternative learning format. Students can choose to enroll in one or multiple courses depending on their interests. Course hours may be adjusted depending on the delivery time frames. Students who complete all 6 modules (15 courses) will receive a post-secondary Certificate in Tourism & Hospitality Services. This exciting learning opportunity will provide individuals with increased access to Tourism & Hospitality Services online modules/courses, which allows the flexibility of time and place. Some practical components of courses may have an on-site requirement. For further information on Distributed Learning, please visit https://dls.cna.nl.ca/.

Newfoundland and Labrador has captured the attention of the world like never before. Tourism has significantly contributed to the Newfoundland and Labrador economy. This program will provide a unique and flexible opportunity for individuals to increase their post-secondary educational credentials in Tourism & Hospitality Services. Whether you are beginning your career or simply wish to upgrade your skills, this flexible program is the perfect fit for you.

The Tourism & Hospitality Services program focuses on tourism knowledge, skills and modern trends, with an emphasis on the core skills and characteristics of the accommodations, and food and beverage industries. Topics of interest include cultural tourism and the arts, sustainability, social media, customer service and communications. The program also includes a field placement for hands-on experience, as well as several professional certifications. With a number of exciting job opportunities, start planning for your future today at CNA!

OBJECTIVES

Upon successful completion of the certificate program, graduates will be able to:

1. Explain the role and social, cultural and economic importance that tourism has in society.
2. Identify the tourism industry sectors and explain their interdependence.
3. Explain the various components of the tourism industry and how these components work together.
4. Communicate effectively and with confidence with peers, supervisors and customers in person, on the telephone, and via email or social media.
5. Demonstrate entry-level skills in front office, housekeeping, and food and beverage.
6. Demonstrate effective interpersonal and customer service skills in a professional manner.
7. Contribute to the effective daily operations of a tourism and hospitality organization or business as a skilled team member.

FUTURE OPPORTUNITIES

The growth of the tourism sector globally offers exciting employment opportunities throughout the world, and graduates will be well qualified to seek opportunities within tourism and hospitality services provincially, nationally and internationally. Graduates of this certificate program should have career goals for entry-level employment. They will be able to seek employment with hotels and other tourism establishments in positions such as front desk agents, in housekeeping, and as servers and bartenders in food service operations.

PROFESSIONAL CERTIFICATIONS

Students in the Tourism & Hospitality Services Certificate program are required to complete professional certifications during TR1120 – Professional Certifications I.

Note: Students should be aware that additional fees apply for the certifications and field trips. Additional expenses will be incurred for the purchase of items of clothing required for the program.

ENTRANCE REQUIREMENTS

Eligibility for admission to Tourism & Hospitality Services requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Diploma with a 60% average in nine Level 3000 credits or equivalent
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science Transition Certificate
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an overall average pass mark of 60%.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements. For more information regarding the Mature Student Requirements, please refer to Procedure AC-102-PR: Admission.
5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

PLEASE NOTE: Basic computer literacy skills, as well as strong core skills in English and Mathematics are definite assets for this program. These skills are important for success in the program.

School of Business and Information Technology

Atlantic Trades Business Seal
CERTIFICATE
• **15 Weeks, Part-Time**
• **September**
• **Distributed Learning Campus**

COURSES

CODE	TITLE	
Semester 1		**Hrs**
TB1000	Marketing & Sales	30
TB1010	Operations Management	30
TB1020	Business Planning	30
TB1030	Human Resources Management	30
TB1040	Financial Management	30

The Atlantic Trades Business Seal program is designed for journeypersons to advance their business and leadership skills and to gain regional career mobility. Graduates will be prepared for a managerial role within a company or will have gained the skillset required to create and manage their own business. Existing business owners will benefit from the program by developing the skills needed to take their business to the next level.

The program provides graduates with knowledge and skills in the following functional areas of business:
- Marketing & Sales
- Operations Management
- Business Planning
- Financial Management
- Human Resource Management

OBJECTIVES
Graduates of the Atlantic Trades Business Seal program will have the knowledge and skills that will allow them to:

1. Design an organizational structure for trade-related businesses
2. Write a trade-related business plan
3. Design and implement personnel policies
4. Identify and analyze trends and statistical data related to the growth and improvement of trade-related businesses
5. Identify options and alternatives for business growth and improvement
6. Interpret financial statements to make informed business decisions
7. Develop appropriate marketing strategies for trade-related businesses
8. Schedule people, materials and equipment
9. Develop feasible, competitive and profitable quotes or estimates

ACADEMIC ADVISING
Each student will be assigned an academic advisor to help guide you through the college experience. The advisor is trained to counsel you on college-related issues or to make mutually agreed upon referrals for you to other college professionals.

EMPLOYMENT OPPORTUNITIES
The Seal can prepare graduates for a managerial role at a company or to create their own business. Existing business owners will benefit from the program by developing the skills needed to take their business to the next level.

ENTRANCE REQUIREMENTS
Applicants must hold a Red Seal Credential or Certificate of Qualification in a designated trade.

CERTIFICATE REQUIREMENTS
Individuals must complete five stand-alone modules to meet the requirements for the Atlantic Trades Business Seal. Once these are successfully completed, a transcript must be submitted to the Apprenticeship and Trades Certification Division, which will issue the Atlantic Trades Business Seal.

Business Administration

CERTIFICATE

- **One Year**
- **September**
- **Baie Verte, Bonavista, Burin, and St. Anthony Campuses**
- **The Business Administration Certificate offered at Baie Verte campus is delivered via Distributed Learning with additional learning resources available onsite**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
AC1260	Financial Accounting I	5	4	3
CM1240	Business Communications I	4	4	0
HN1230	Human Resource Management I	3	3	1
FN1140	Introduction to Finance	3	3	1
MC1240	Computer Applications I	3	2	2
MR1100	Marketing I	4	4	0
Semester 2		**Cr**	**Le**	**La**
AC2260	Financial Accounting II	5	4	3
CM1241	Business Communications II	4	4	0
HN1240	Human Resource Management II	3	3	1
LW1230	Business Law	3	3	0
MR2100	Marketing II	4	4	0
MC1242	Computer Applications II	3	2	3
Semester 3 (Intersession)		**Cr**	**Le**	**La**
AC2230	Computerized Accounting I	3	2	3
CM2200	Oral Communications	2	2	0
OJ1100	Work Exposure (Certificate Only) 2wks			

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Graduates from the Business Administration certificate program will acquire the knowledge and skills for entry into the Human Resource Management, General, Accounting and Marketing diploma programs.

ENTRANCE REQUIREMENTS
Academic:
Eligibility for admission to Business Administration/Business Management programs requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English 3201 or English 3202 (60% minimum)
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Five credits at the 3000 Level
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math Fundamentals: MA1040, MA1041
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Business-Related College Profile including the following courses (or equivalent):
i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

PROGRAM TRANSFERABILITY
The Business Administration/Management programs offer exit points after Year 1, Year 2, and Year 3.

Year 1: The first year is a common year at the end of which students may graduate with a Business Administration Certificate.
Year 2: Students select one area of specialization for the second year from the following options: Accounting, General, Human Resource Management, and Marketing. Students may graduate at the end of Year 2 with a Business Administration Diploma.
Year 3: The third-year options are Accounting, Human Resource Management, and Marketing. Students may graduate with a Business Management Diploma at the end of Year 3.

Graduates of the Business Administration/Management programs may have the opportunity to transfer credits to institutions/associations such as:
• Memorial University of Newfoundland
• Cape Breton University, Sydney, Nova Scotia
• Athabasca University, Alberta
• Lakehead College, Alberta
• University of Lethbridge, Alberta
• Lakehead University, Ontario
• University of New Brunswick, Saint John campus
• Okanagan College, British Columbia
• Northwood University, Michigan, USA

Graduates may also wish to further their studies to achieve professional designations with:
• Chartered Professional Accountants of Canada
• Canadian Institute of Financial Planning
• Canadian Professional Sales Association
• Canadian Public Relations Society
• International Personnel Management Association (IPMA) – Canada
• The Payroll Association of Canada

Business Administration (Accounting)

DIPLOMA

• **Two Years**
• **September**
• **Bay St. George, Carbonear, Clarenville, Corner Brook, and Distributed Learning Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
AC1260	Financial Accounting I	5	4	3
CM1240	Business Communications I	4	4	0
HN1230	Human Resource Management I	3	3	1
FN1140	Introduction to Finance	3	3	1
MC1240	Computer Applications I	3	2	2
MR1100	Marketing I	4	4	0
Semester 2		**Cr**	**Le**	**La**
AC2260	Financial Accounting II	5	4	3
CM1241	Business Communications II	4	4	0
HN1240	Human Resource Management II	3	3	1
LW1230	Business Law	3	3	0
MR2100	Marketing II	4	4	0
MC1242	Computer Applications II	3	2	3
Semester 3 (Intersession)		**Cr**	**Le**	**La**
AC2230	Computerized Accounting I	3	2	3
CM2200	Oral Communications	2	2	0

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Year 1 courses can be completed at campuses offering the Business Administration certificate program.

Semester 4		**Cr**	**Le**	**La**
AC2220	Intermediate Financial Accounting I	5	3	5
AC2250	Managerial Accounting I	4	3	2
AC2231	Computerized Accounting II	3	2	2
CM2300	Report Writing	2	2	0
EC1110	Microeconomics	4	4	0
MA1670	Statistics	4	4	1
Semester 5		**Cr**	**Le**	**La**
AC1350	Income Tax	4	3	2
AC3220	Intermediate Financial Accounting II	5	3	5
AC3250	Managerial Accounting II	4	3	2
AC2360	Principles of Internal Auditing	3	2	2
EP2150	Entrepreneurship	3	3	0
Elective		3	3	0
Semester 6 (Intersession II)		**Cr**	**Le**	**La**
OJ1580	Work Exposure (Accounting)	6 wks		

This program is currently under review and is subject to change.

The Business Administration (Accounting) program has been developed to provide the student with the knowledge and skills required in the field of general financial accounting. The graduate will be able to provide complex information and comprehensive reports to management. Throughout the program the student will develop a learning portfolio and career and educational plans.

Note: Year 2 of the Business Administration (Accounting) and the Business Management (Accounting) programs is common.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:

1. Prepare and analyze financial statements for internal and external decision making.
2. Use current technology to analyze results and generate appropriate reports.
3. Develop financial and budgetary plans based on varying business objectives, changing business environments, and underlying business assumptions.
4. Demonstrate accounting skills at an intermediate to advanced level for application in the workplace.
5. Integrate ethical accounting practices for use in performing accounting functions.
6. Demonstrate application of the Conference Board of Canada employability skills.

ENTRANCE REQUIREMENTS
Academic:
Eligibility for admission to Business Administration/Business Management programs requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English 3201 or English 3202 (60% minimum)
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Five credits at the 3000 Level
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math Fundamentals: MA1040, MA1041
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Business-Related College Profile including the following courses (or equivalent):
i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.
CAREER OPPORTUNITIES
Graduates may obtain employment in a variety of businesses, organizations and government departments. Possible positions are: accountant, comptroller, business analyst, taxation officer, financial officer, administrative manager, payroll officer.

ACCREDITATION
Business Administration (Accounting) is accredited by the Accreditation Council for Business Schools and Programs (ACBSP) in all campus locations. ACBSP is the leading specialized accreditation association for business education supporting, celebrating, and rewarding teaching excellence.

PROGRAM TRANSFERABILITY

The Business Administration/Management programs offer exit points after Year 1, Year 2, and Year 3.

* Students can graduate at the end of Year 1 with a Business Administration Certificate.
* Students graduate at the end of Year 2 with a Business Administration Diploma.
* Students graduate at the end of Year 3 with a Business Management Diploma.

Graduates of the Business Administration (Accounting) program may have the opportunity to transfer credits to institutions/associations such as:
• Memorial University of Newfoundland
• Cape Breton University, Sydney, Nova Scotia
• Athabasca University, Alberta
• Lakehead College, Alberta
• University of Lethbridge, Alberta
• Lakehead University, Ontario
• University of New Brunswick, Saint John campus
• Okanagan College, British Columbia
• Northwood University, Michigan, USA

Graduates may also wish to further their studies to achieve professional designations with:
• Canadian Institute of Financial Planning
• The Payroll Association of Canada
• Chartered Professional Accountants of Canada (CPA)

Business Administration (General)

DIPLOMA
- **Two Years**
- **September**
- **Distributed Learning, and Port aux Basques Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
AC1260	Financial Accounting I	5	4	3
CM1240	Business Communications I	4	4	0
HN1230	Human Resource Management I	3	3	1
FN1140	Introduction to Finance	3	3	1
MC1240	Computer Applications I	3	2	2
MR1100	Marketing I	4	4	0
Semester 2		**Cr**	**Le**	**La**
AC2260	Financial Accounting II	5	4	3
CM1241	Business Communications II	4	4	0
HN1240	Human Resource Management II	3	3	1
LW1230	Business Law	3	3	0
MR2100	Marketing II	4	4	0
MC1242	Computer Applications II	3	2	3
Semester 3 (Intersession)		**Cr**	**Le**	**La**
AC2230	Computerized Accounting I	3	2	3
CM2200	Oral Communications	2	2	0

The Course and Lab hours per week are based on a 15 weeks semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter length. Refer to course outline.

Year 1 courses can be completed at campuses offering the Business Administration certificate program.

Semester 4		**Cr**	**Le**	**La**
CM2300	Report Writing	2	2	0
EC1110	Microeconomics	4	4	0
MA1670	Statistics	4	4	1
MR2300	Business Research	4	3	2
One of:				
AC2220	Intermediate Financial Accounting I	5	3	5
AC2250	Managerial Accounting I	4	3	2
One of:				
HN1100	Introduction to Industrial Relations	3	3	1
HN2130	Recruitment and Selection	3	3	1
HN2150	Training & Development	3	3	1
One of:				
MR1500	Consumer Behavior	3	3	0
MR1600	Professional Selling	4	3	2
Semester 5		**Cr**	**Le**	**La**
EP2150	Entrepreneurship	3	3	0
PS2340	Organizational Behavior	4	4	0
Elective		3	3	0
One of:				
AC1350	Income Tax	4	3	2
AC3220	Intermediate Financial Accounting II	5	3	5
AC3250	Managerial Accounting II	4	3	2

One of:

		Cr	Le	La
HN1400	Occupational Health & Safety	3	3	1
HN2100	Collective Agreement Administration	3	3	1
LW1210	Labour and Employment Law	4	3	2

One of:

		Cr	Le	La
MR2200	Retailing	3	2	3
MR2350	E-Business	4	3	2
MR2400	Marketing Communications	4	3	2

Semester 6 (Intersession II)		**Cr**	**Le**	**La**
OJ1590	Work Exposure (General)	6 wks		

The successful business administrator must be an effective leader, communicator and problem solver; one who can integrate rapidly emerging technology with diverse business functions such as accounting, marketing, and human resource management.

Students in the Business Administration (General) program will develop interpersonal and organizational skills. They will use the latest computer technology in business decision making and learn practical skills which will help them to be productive members of the workforce. Graduates can expect to build on this solid base during their entire business career.

Note: Year 1 courses can be completed at campuses that offer the Business Administration certificate program.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:

1. Demonstrate the ability to effectively engage in research and information gathering processes.
2. Discuss general knowledge of accounting, human resources, and marketing, for application in a business environment.
3. Demonstrate entrepreneurship skills used in small- to medium-sized business environment.
4. Demonstrate application of the Conference Board of Canada employability skills.

ENTRANCE REQUIREMENTS
Academic:
Eligibility for admission to Business Administration/Business Management programs requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English 3201 or English 3202 (60% minimum)
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Five credits at the 3000 Level
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math Fundamentals: MA1040, MA1041
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Business-Related College Profile including the following courses (or equivalent):
i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

CAREER OPPORTUNITIES
Graduates may find entry level job opportunities in a wide spectrum of organizations such as public institutions, small and/or large businesses, and financial institutions.

ACCREDITATION
Business Administration (General) is accredited by the Accreditation Council for Business Schools and Programs (ACBSP) in all campus locations. ACBSP is the leading specialized accreditation association for business education supporting, celebrating, and rewarding teaching excellence.

PROGRAM TRANSFERABILITY
The Business Administration/Management programs offer exit points after Year 1, Year 2, and Year 3.
* Students can graduate at the end of Year 1 with a Business Administration Certificate.
* Students graduate at the end of Year 2 with a Business Administration Diploma.
* Students graduate at the end of Year 3 with a Business Management Diploma.

 Graduates of the Business Administration/Management programs may have the opportunity to transfer credits to institutions/associations such as:
• Memorial University of Newfoundland
• Cape Breton University, Sydney, Nova Scotia
• Athabasca University, Alberta
• Lakehead College, Alberta
• University of Lethbridge, Alberta
• Lakehead University, Ontario
• University of New Brunswick, Saint John campus
• Okanagan College, British Columbia
• Northwood University, Michigan, USA

Graduates may also wish to further their studies to achieve professional designations with:
• Canadian Institute of Financial Planning
• Chartered Professional Accountants of Canada (CPA)
• Canadian Professional Sales Association
• Canadian Public Relations Society
• International Personnel Management Association (IPMA) - Canada
• The Payroll Association of Canada

Business Administration (Human Resource Management)

DIPLOMA

• **Two Years**
• **September**
• **Bay St. George, Carbonear, Clarenville, and Distributed Learning Campuses**

COURSES

CODE	TITLE	Cr	Le	La
Semester 1		**Cr**	**Le**	**La**
AC1260	Financial Accounting I	5	4	3
CM1240	Business Communications I	4	4	0
HN1230	Human Resource Management I	3	3	1
FN1140	Introduction to Finance	3	3	1
MC1240	Computer Applications I	3	2	2
MR1100	Marketing I	4	4	0
Semester 2		**Cr**	**Le**	**La**
AC2260	Financial Accounting II	5	4	3
CM1241	Business Communications II	4	4	0
HN1240	Human Resource Management II	3	3	1
LW1230	Business Law	3	3	0
MR2100	Marketing II	4	4	0
MC1242	Computer Applications II	3	2	2
Semester 3 (Intersession)		**Cr**	**Le**	**La**
AC2230	Computerized Accounting I	3	2	3
CM2200	Oral Communications	2	2	0

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Year 1 courses can be completed at campuses offering the Business Administration certificate program.

		Cr	Le	La
Semester 4		**Cr**	**Le**	**La**
CM2300	Report Writing	2	2	0
EC1110	Microeconomics	4	4	0
HN1100	Industrial Relations	3	3	1
HN2130	Recruitment and Selection	3	3	1
HN2150	Training and Development	3	3	1
MA1670	Statistics	4	4	1
MR2300	Business Research	4	3	2
Semester 5		**Cr**	**Le**	**La**
AC2600	Managerial Accounting for HRM	4	3	2
HN1400	Occupational Health and Safety	3	3	1
HN2100	Collective Agreement Administration	3	3	1
LW1210	Labour and Employment Law	4	4	1
PS2340	Organizational Behavior	4	4	0
EP2150	Entrepreneurship	3	3	0
Elective		3	3	0
Semester 6 (Intersession II)		**Cr**	**Le**	**La**
OJ1550	Work Exposure (HRM)	6 wks		

The Business Administration (Human Resource Management) program has been designed to provide students with insight into the theory and practice of effective Human Resource Management. In today's competitive business environment, managers recognize the importance of their human resources to the success of their organization.

The program is designed to provide students with an opportunity to pursue a career in Human Resource Management, Industrial/Labour Relations, Supervision and General Management.

Note: Year 2 of the Business Administration (Human Resource Management) and the Business Management (Human Resource Management) programs is common.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:

1. Examine and critique the key fundamentals of strategic human resource management and the employment related legislation (acts and regulations).
2. Propose and apply various human resource practices to effectively manage an organization's human resources.
3. Demonstrate effective research, negotiation, conflict resolution, and leadership skills for use in the business environment.
4. Integrate ethical human resource management practices for use in performing human resource functions.
5. Demonstrate application of the Conference Board of Canada employability skills.

ENTRANCE REQUIREMENTS
Academic:
Eligibility for admission to Business Administration/Business Management programs requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English 3201 or English 3202 (60% minimum)
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Five credits at the 3000 Level
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math Fundamentals: MA1040, MA1041
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Business-Related College Profile including the following courses (or equivalent):
i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

CAREER OPPORTUNITIES
Graduates may obtain employment in a variety of areas such as private businesses, consulting agencies, associations, unions, federal/provincial/municipal governments.

The following is a brief list of the positions that graduates may occupy after successful completion of the program: recruitment/selection officer, personnel officer, training and development officer; compensation/benefits specialist, sexual harassment officer, employee assistance coordinator, labour relations officer, professional development officer, human resource officer, personnel manager, manager of human resources, classification officer.

ACCREDITATION

Business Administration (Human Resource Management) is accredited by the Accreditation Council for Business Schools and Programs (ACBSP) in all campus locations. ACBSP is the leading specialized accreditation association for business education supporting, celebrating, and rewarding teaching excellence.

PROGRAM TRANSFERABILITY

The Business Administration/Management programs offer exit points after Year 1, Year 2, and Year 3.
* Students can graduate at the end of Year 1 with a Business Administration Certificate.
* Students graduate at the end of Year 2 with a Business Administration Diploma.
* Students graduate at the end of Year 3 with a Business Management Diploma.

Graduates of the Business Administration/Management programs may have the opportunity to transfer credits to institutions/associations such as:
• Memorial University of Newfoundland
• Cape Breton University, Sydney, Nova Scotia
• Athabasca University, Alberta
• Lakehead College, Alberta
• University of Lethbridge, Alberta
• Lakehead University, Ontario
• University of New Brunswick, Saint John campus
• Okanagan College, British Columbia
• Northwood University, Michigan, USA

Graduates may also wish to further their studies to achieve professional designations with:
• Canadian Institute of Financial Planning
• Canadian Professional Sales Association
• Canadian Public Relations Society
• International Personnel Management Association (IPMA) - Canada
• The Payroll Association of Canada

Business Administration (Marketing)
DIPLOMA
• **Two Years**
• **September**
• **Distributed Learning Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
AC1260	Financial Accounting I	5	4	3
CM1240	Business Communications I	4	4	0
HN1230	Human Resource Management I	3	3	1
FN1140	Introduction to Finance	3	3	1
MC1240	Computer Applications I	3	2	2
MR1100	Marketing I	4	4	0
Semester 2		**Cr**	**Le**	**La**
AC2260	Financial Accounting II	5	4	3
CM1241	Business Communications II	4	4	0
HN1240	Human Resource Management II	3	3	1
LW1230	Business Law	3	3	0
MR2100	Marketing II	4	4	0
MC1242	Computer Applications	3	2	3
Semester 3 (Intersession)		**Cr**	**Le**	**La**
AC2230	Computerized Accounting I	3	2	3
CM2200	Oral Communications	2	2	0

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Year 1 courses can be completed at campuses offering the Business Administration certificate program.

		Hrs/wk		
Semester 4		**Cr**	**Le**	**La**
CM2300	Report Writing	2	2	0
EC1110	Microeconomics	4	4	0
MA1670	Statistics	4	4	1
MR1500	Consumer Behaviour	3	3	0
MR1600	Professional Selling	4	3	2
MR2300	Business Research	4	3	2
	Elective	3	3	0
Semester 5		**Cr**	**Le**	**La**
EC1210	Macroeconomics	4	4	0
EP2150	Entrepreneurship	3	3	0
MR2200	Retailing	3	3	1
MR2350	E-Business	4	3	2
MR2400	Marketing Communications	4	3	2
PR2170	Project Management	2	2	1
	Elective	3	3	0
Semester 6 (Intersession II)		**Cr**	**Le**	**La**
OJ1560	Work Exposure (Marketing)	6 wks		

The two-year program leading to a Diploma in Business Administration (Marketing) is designed to give students a broad background in business management with emphasis on the area of marketing. Graduates find employment in marketing, sales, retailing, administration, advertising, and general management.

Note: Year 2 of the Business Administration (Marketing) and the Business Management (Marketing) programs is common.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:

1. Analyze the marketing environment to develop a comprehensive marketing strategy with recommendations for implementation and monitoring of the strategy.
2. Critically analyze and provide business solutions to marketing product, price, promotion, and distribution decisions.
3. Integrate ethical marketing strategies and tactics for application in both domestic and global marketing environments.
4. Create support materials for use in the implementation of a marketing strategy.
5. Demonstrate application of the Conference Board of Canada employability skills.

ENTRANCE REQUIREMENTS
Academic:
Eligibility for admission to Business Administration/Business Management programs requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English 3201 or English 3202 (60% minimum)
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Five credits at the 3000 Level
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math Fundamentals: MA1040, MA1041
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Business-Related College Profile including the following courses (or equivalent):
i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

CAREER OPPORTUNITIES
Graduates of this program may obtain employment in a variety of marketing areas such as distribution, media, advertising, retailing, and personal selling in a variety of industries and associations.

ACCREDITATION
Business Administration (Marketing) is accredited by the Accreditation Council for Business Schools and Programs (ACBSP) in all campus locations. ACBSP is the leading specialized accreditation association for business education supporting, celebrating, and rewarding teaching excellence.

PROGRAM TRANSFERABILITY

The Business Administration/Management programs offer exit points after Year 1, Year 2, and Year 3.
* Students can graduate at the end of Year 1 with a Business Administration Certificate.
* Students graduate at the end of Year 2 with a Business Administration Diploma.
* Students graduate at the end of Year 3 with a Business Management Diploma.

Graduates of the Business Administration/Management programs may have the opportunity to transfer credits to institutions/associations such as:
• Memorial University of Newfoundland
• Cape Breton University, Sydney, Nova Scotia
• Athabasca University, Alberta
• Lakehead College, Alberta
• University of Lethbridge, Alberta
• Lakehead University, Ontario
• University of New Brunswick, Saint John campus
• Okanagan College, British Columbia
• Northwood University, Michigan, USA

Graduates may also wish to further their studies to achieve professional designations with:
• Canadian Institute of Financial Planning
• Canadian Professional Sales Association
• Canadian Public Relations Society
• International Personnel Management Association (IPMA) - Canada
• The Payroll Association of Canada

Business Management (Accounting)

DIPLOMA

- **Three Years**
- **September**
- **Grand Falls-Windsor, and Prince Philip Drive Campuses**

COURSES

CODE	TITLE	Cr	Le	La
Semester 1		**Cr**	**Le**	**La**
AC1260	Financial Accounting I	5	4	3
CM1240	Business Communications I	4	4	0
HN1230	Human Resource Management I	3	3	1
FN1140	Introduction to Finance	3	3	1
MC1240	Computer Applications I	3	2	2
MR1100	Marketing I	4	4	0
Semester 2		**Cr**	**Le**	**La**
AC2260	Financial Accounting II	5	4	3
CM1241	Business Communications II	4	4	0
HN1240	Human Resource Management II	3	3	1
LW1230	Business Law	3	3	0
MR2100	Marketing II	4	4	0
MC1242	Computer Applications II	3	2	3
Semester 3 (Intersession)		**Cr**	**Le**	**La**
AC2230	Computerized Accounting I	3	2	3
CM2200	Oral Communications	2	2	0

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Year 1 courses can be completed at campuses offering the Business Administration certificate program.

CODE	TITLE	Cr	Le	La
Semester 4		**Cr**	**Le**	**La**
AC2220	Intermediate Financial Accounting I	5	3	5
AC2250	Managerial Accounting I	4	3	2
AC2231	Computerized Accounting II	3	2	2
CM2300	Report Writing	2	2	0
EC1110	Microeconomics	4	4	0
MA1670	Statistics	4	4	1
Semester 5		**Cr**	**Le**	**La**
AC1350	Income Tax	4	3	2
AC3220	Intermediate Financial Accounting II	5	3	5
AC3250	Managerial Accounting II	4	3	2
AC2360	Principles of Internal Auditing	3	2	2
EP2150	Entrepreneurship	3	3	0
Elective		3	3	0
Semester 6 (Intersession II)		**Cr**	**Le**	**La**
OJ1580	Work Exposure (Accounting)	6 wks		

Year 2 courses can be completed at campuses offering the Business Administration (Accounting) diploma program.

CODE	TITLE	Cr	Le	La
Semester 7		**Cr**	**Le**	**La**
AC2340	Principles of Auditing	4	3	3
EP2250	Small Business Development	4	3	2
FN2110	Business Finance	4	3	2
MN2600	Strategic Management	3	2	2
PS2340	Organizational Behaviour	4	4	0
Option Course (minimum 3 credits, selected from list below)		3	3	0

Semester 8	Cr	Le	La
AC3251 Managerial Accounting III	4	3	2
EC1210 Macroeconomics	4	4	0
EP2200 Business Planning	4	2	5
MA3700 Production & Operations Management	4	4	1
Elective	3	3	0

Options will be selected from the following list by each campus after consultation with the students and/or local industry. Please note that all courses may not be available at each campus.

Option Courses	Cr	Le	La
AC2540 Oil and Gas Production Accounting	4	3	2
AC3275 Corporate Tax and Remittance	4	3	2
AC3280 Accounting Systems	3	3	1
FN2111 Business Finance II	4	3	2
AC3270 Payroll and Commodity Taxes	4	3	2
HN2200 Strategic Compensation and Benefits	3	3	1
MN1520 Supervisory Leadership	4	4	0
FN2160 Investments - An Overview	4	4	1
BK1100 Banking Operations I	4	4	0

The three-year program leading to a Diploma in Business Management (Accounting) has been developed to achieve competencies required in the field of general financial accounting. Management now requires personnel with skills to provide complex information and to produce comprehensive reports.

Upon completion of this program, students will be capable of performing many accounting functions in small and large businesses and at various levels of government.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:
1. Prepare and analyze financial statements for internal and external decision making.
2. Use current technology to analyze results and generate appropriate reports.
3. Develop financial and budgetary plans based on varying business objectives, changing business environments, and underlying business assumptions.
4. Demonstrate accounting skills at an intermediate to advanced level for application in the workplace.
5. Integrate ethical accounting practices for use in performing accounting functions.
6. Integrate business concepts for effective business planning and strategic management.
7. Demonstrate application of the Conference Board of Canada employability skills.

ENTRANCE REQUIREMENTS
Academic:
Eligibility for admission to Business Administration/Business Management programs requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English 3201 or English 3202 (60% minimum)
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Five credits at the 3000 Level
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math Fundamentals: MA1040, MA1041
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Business-Related College Profile including the following courses (or equivalent):
i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

CAREER OPPORTUNITIES
Graduates may obtain employment in a variety of businesses, organizations and government departments including accountant, comptroller, auditor, business analyst, taxation officer, financial officer, administrative manager, and payroll officer.

ACCREDITATION
Business Management (Accounting) is accredited by the Accreditation Council for Business Schools and Programs (ACBSP) in all campus locations. ACBSP is the leading specialized accreditation association for business education supporting, celebrating, and rewarding teaching excellence.

PROGRAM TRANSFERABILITY
The Business Administration/Management programs offer exit points after Year 1, Year 2, and Year 3.
Year 1: The first year is a common year at the end of which students may graduate with a Business Administration Certificate.
Year 2: Students select one area of specialization for the second year from the following options: Accounting, General, Human Resource Management, and Marketing. Students may graduate at the end of Year 2 with a Business Administration Diploma.
Year 3: The third-year options are Accounting, Human Resource Management, and Marketing. Students may graduate with a Business Management Diploma at the end of Year 3.

Graduates of the Business Administration/Management programs may have the opportunity to transfer credits to institutions/associations such as:
• Memorial University of Newfoundland
• Cape Breton University, Sydney, Nova Scotia
• Athabasca University, Alberta
• Lakehead College, Alberta
• University of Lethbridge, Alberta
• Lakehead University, Ontario
• University of New Brunswick, Saint John campus
• Okanagan College, British Columbia
• Northwood University, Michigan, USA

Graduates may also wish to further their studies to achieve professional designations with:
• Chartered Professional Accountants of Canada (CPA)
• Canadian Institute of Financial Planning
• Canadian Professional Sales Association
• Canadian Public Relations Society
• International Personnel Management Association (IPMA) - Canada
• The Payroll Association of Canada

Business Management (Human Resource Management)

DIPLOMA
- **Three Years**
- **September**
- **Distributed Learning, Grand Falls-Windsor, and Prince Philip Drive Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
AC1260	Financial Accounting I	5	4	3
CM1240	Business Communications I	4	4	0
HN1230	Human Resource Management I	3	3	1
FN1140	Introduction to Finance	3	3	1
MC1240	Computer Applications I	3	2	2
MR1100	Marketing I	4	4	0
Semester 2		**Cr**	**Le**	**La**
AC2260	Financial Accounting II	5	4	3
CM1241	Business Communications II	4	4	0
HN1240	Human Resource Management II	3	3	1
LW1230	Business Law	3	3	0
MR2100	Marketing II	4	4	0
MC1242	Computer Applications II	3	2	3
Semester 3 (Intersession)		**Cr**	**Le**	**La**
AC2230	Computerized Accounting I	3	2	3
CM2200	Oral Communications	2	2	0

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Year 1 courses can be completed at campuses offering the Business Administration certificate program.

Semester 4		**Cr**	**Le**	**La**
CM2300	Report Writing	2	2	0
EC1110	Microeconomics	4	4	0
HN1100	Industrial Relations	3	3	1
HN2130	Recruitment and Selection	3	3	1
HN2150	Training and Development	3	3	1
MA1670	Statistics	4	4	1
MR2300	Business Research	4	3	2
Semester 5		**Cr**	**Le**	**La**
AC2600	Managerial Accounting for HRM	4	3	2
HN1400	Occupational Health and Safety	3	3	1
HN2100	Collective Agreement Administration	3	3	1
LW1210	Labour and Employment Law	4	4	1
PS2340	Organizational Behaviour	4	4	0
EP2150	Entrepreneurship	3	3	0
Elective		3	3	0
Semester 6 (Intersession II)		**Cr**	**Le**	**La**
OJ1550	Work Exposure (HRM)	6 wks		

Year 2 courses can be completed at campuses offering the Business Administration (HRM) diploma program.

Semester 7		Cr	Le	La
EP2250	Small Business Development	4	3	2
FN2110	Business Finance	4	3	2
HN2140	Attendance and Disability Management	3	3	1
HN2200	Strategic Compensation and Benefits	3	3	1
MN2600	Strategic Management	3	2	2
Elective	(minimum 3 credits)	3	3	0

Semester 8		Cr	Le	La
EP2200	Business Planning	4	2	5
HN2110	Dispute Resolution	3	3	1
HN2210	Human Resource Planning	3	3	1
HN3110	Current Topics in HRM & IR	3	3	1
MN3100	Business Ethics	3	3	1
MN3200	Performance Management	3	3	1

The Business Management (Human Resource Management) program has been designed to provide students with insight into the theory and practice of effective Human Resource Management. The program seeks to provide the student with a broad understanding of fundamental business principles and practices essential to effective and efficient management.

The Business Management (Human Resource Management) program is designed to provide students with an opportunity to pursue a career in Human Resource Management, Industrial/Labour Relations, Supervision and General Management.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:

1. Examine and critique the key fundamentals of strategic human resource management and the employment related legislation (acts and regulations).
2. Propose and apply various human resource practices to effectively manage an organization's human resources.
3. Demonstrate effective research, negotiation, conflict resolution, and leadership skills for use in the business environment.
4. Integrate ethical human resource management practices for use in performing human resource functions.
5. Integrate business concepts for effective business planning and strategic management.
6. Demonstrate application of the Conference Board of Canada employability skills.

ENTRANCE REQUIREMENTS
Academic:
Eligibility for admission to Business Administration/Business Management programs requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English 3201 or English 3202 (60% minimum)
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Five credits at the 3000 Level
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math Fundamentals: MA1040, MA1041
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Business-Related College Profile including the following courses (or equivalent):
i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

CAREER OPPORTUNITIES
Graduates of the program may obtain employment in a variety of areas such as private business, Federal/Provincial/Municipal Government, industry, consulting agencies, institutions, associations, and unions.

The following is a list of positions that graduates may occupy after successful completion of the program: recruitment/selection officer, personnel officer, training and development officer, compensation/ benefits specialist, sexual harassment officer, employee assistance coordinator, labour relations officer, professional development officer, human resource officer, personnel manager, manager of human resources, classification officer, and other business related occupations.

ACCREDITATION
Business Management (Human Resource Management) is accredited by the Accreditation Council for Business Schools and Programs (ACBSP) in all campus locations. ACBSP is the leading specialized accreditation association for business education supporting, celebrating, and rewarding teaching excellence.

PROGRAM TRANSFERABILITY
The Business Administration/Management programs offer exit points after Year 1, Year 2, and Year 3.
* Students can graduate at the end of Year 1 with a Business Administration Certificate.
* Students graduate at the end of Year 2 with a Business Administration Diploma.
* Students graduate at the end of Year 3 with a Business Management Diploma.

Graduates of the Business Administration/Management programs may have the opportunity to transfer credits to institutions/associations such as:
• Memorial University of Newfoundland
• Cape Breton University, Sydney, Nova Scotia
• Athabasca University, Alberta
• Lakehead College, Alberta
• University of Lethbridge, Alberta
• Lakehead University, Ontario
• University of New Brunswick, Saint John campus
• Okanagan College, British Columbia
• Northwood University, Michigan, USA

Graduates may also wish to further their studies to achieve professional designations with:
• Canadian Institute of Financial Planning
• Canadian Professional Sales Association
• Canadian Public Relations Society
• International Personnel Management Association (IPMA) - Canada
• The Payroll Association of Canada

Business Management (Marketing)

DIPLOMA

• **Three Years**
• **September**
• **Prince Philip Drive Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
AC1260	Financial Accounting I	5	4	3
CM1240	Business Communications I	4	4	0
HN1230	Human Resource Management I	3	3	1
FN1140	Introduction to Finance	3	3	1
MC1240	Computer Applications I	3	2	2
MR1100	Marketing I	4	4	0
Semester 2		**Cr**	**Le**	**La**
AC2260	Financial Accounting II	5	4	3
CM1241	Business Communications II	4	4	0
HN1240	Human Resource Management II	3	3	1
LW1230	Business Law	3	3	0
MR2100	Marketing II	4	4	0
MC1242	Computer Applications II	3	2	3
Semester 3 (Intersession)		**Cr**	**Le**	**La**
AC2230	Computerized Accounting I	3	2	3
CM2200	Oral Communications	2	2	0

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Year 1 courses can be completed at campuses offering the Business Administration certificate program.

Semester 4		**Cr**	**Le**	**La**
CM2300	Report Writing	2	2	0
EC1110	Microeconomics	4	4	0
MA1670	Statistics	4	4	1
MR1500	Consumer Behaviour	3	3	0
MR1600	Professional Selling	4	3	2
MR2300	Business Research	4	3	2
Elective	(minimum 3 credits)	3	3	0
Semester 5		**Cr**	**Le**	**La**
EC1210	Macroeconomics	4	4	0
EP2150	Entrepreneurship	3	3	0
MR2200	Retailing	3	3	1
MR2350	E-Business	4	3	2
MR2400	Marketing Communications	4	3	2
PR2170	Project Management	2	2	1
Elective		3	3	0
Semester 6 (Intersession II)		**Cr**	**Le**	**La**
OJ1560	Work Exposure (Marketing)	6 wks		

Year 2 courses can be completed at campuses offering the Business Administration (Marketing) diploma program.

Semester 7	Cr	Le	La
EP2250 Small Business Development	4	3	2
FN2110 Business Finance	4	3	2
MN2600 Strategic Management	3	2	2
MR2450 Services Marketing	3	2	2
MR2800 Business-to-Business Marketing	3	2	2
Elective (minimum 3 credits)	3	3	0

Semester 8	Cr	Le	La
EP2200 Business Planning	4	2	5
MR2620 Sales Management	4	4	0
MR2700 International Marketing	4	4	0
MR3100 Current Topics in Marketing	3	3	1
PS2340 Organizational Behaviour	4	4	0
Elective (minimum of 3 credits)	3	3	0

The three-year Business Management (Marketing) diploma program is designed to give students a background in business management with emphasis on the area of Marketing. Students acquire a solid understanding of the practices involved in marketing and promoting a product or service. This includes advertising, market research, professional selling, distribution, business planning, and customer relations.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:
1. Analyze the marketing environment to develop a comprehensive marketing strategy with recommendations for implementation and monitoring of the strategy.
2. Critically analyze and provide business solutions to marketing product, price, promotion, and distribution decisions.
3. Integrate ethical marketing strategies and tactics for application in both domestic and global marketing environments.
4. Create support materials for use in the implementation of a marketing strategy.
5. Integrate business concepts for effective business planning and strategic management.
6. Demonstrate application of the Conference Board of Canada employability skills.

ENTRANCE REQUIREMENTS
Academic:
Eligibility for admission to Business Administration/Business Management programs requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English 3201 or English 3202 (60% minimum)
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Five credits at the 3000 Level
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math Fundamentals: MA1040, MA1041
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Business-Related College Profile including the following courses (or equivalent):
i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

CAREER OPPORTUNITIES
Graduates of the program may obtain employment in a variety of marketing areas such as distribution, media, advertising, retailing, and personal selling in a variety of industries and associations.

ACCREDITATION
Business Management (Marketing) is accredited by the Accreditation Council for Business Schools and Programs (ACBSP) in all campus locations. ACBSP is the leading specialized accreditation association for business education supporting, celebrating, and rewarding teaching excellence.

PROGRAM TRANSFERABILITY
The Business Administration/Management programs offer exit points after Year 1, Year 2, and Year 3.
* Students can graduate at the end of Year 1 with a Business Administration Certificate.
* Students graduate at the end of Year 2 with a Business Administration Diploma.
* Students graduate at the end of Year 3 with a Business Management Diploma.

Graduates of the Business Administration/Management programs may have the opportunity to transfer credits to institutions/associations such as:
• Memorial University of Newfoundland
• Cape Breton University, Sydney, Nova Scotia
• Athabasca University, Alberta
• Lakehead College, Alberta
• University of Lethbridge, Alberta
• University of New Brunswick, Saint John campus
• Okanagan College, British Columbia
• Lakehead University, Ontario
• Northwood University, Michigan, USA

Graduates may also wish to further their studies to achieve professional designations with:
• Canadian Institute of Financial Planning
• Canadian Professional Sales Association
• Canadian Public Relations Society
• International Personnel Management Association (IPMA) - Canada
• The Payroll Association of Canada

Executive Office Management

DIPLOMA

• **Two Years**
• **September**
• **Bay St. George, Burin, Clarenville, Corner Brook, Distributed Learning, Grand Falls-Windsor, Labrador West, Port aux Basques, Prince Philip Drive, and St. Anthony Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
AC1100	Bookkeeping I	4	3	2
CM1100	Writing Essentials	3	3	1
DM1200	Document Production I	6	4	6
EP1110	Introduction to Business	4	4	0
OF1105	Personal and Career Growth	3	2	3
Semester 2		**Cr**	**Le**	**La**
AC2100	Bookkeeping II	4	3	2
CM2110	Business Writing Fundamentals	3	3	0
DM1300	Transcription	4	3	2
DM1210	Document Production II	6	4	6
OF1101	Operational Management	4	3	2
Semester 3 (Intersession)		**Cr**	**Le**	**La**
CP2310	Electronic Spreadsheets	3	2	2
OF1305	Digital Tools for the Office	3	2	2

The Course and Lab hours per week are based on a 15-week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline

Semester 4		**Cr**	**Le**	**La**
AC2230	Computerized Accounting I	3	2	3
CM2200	Oral Communications	2	2	0
CP2110	Advanced Electronic Spreadsheets	3	2	2
DM2200	Document Production III	6	4	6
OF2100	Career Planning Strategies	4	3	2
Elective	(minimum 2-4 credits)	2-4	2-4	0
Semester 5		**Cr**	**Le**	**La**
CP2640	Desktop Publishing	3	2	2
DM2240	Document Production IV	6	4	6
OF2101	Office Simulation	4	3	2
PS2340	Organizational Behaviour	4	4	0
OF2700	Career Readiness	2	2	0
Elective	(minimum 2-4 credits)	2-4	2-4	0
Semester 6 (Intersession II)		**Cr**	**Le**	**La**
OJ1900	Work Exposure-Executive Office Management	P/F	0	6 wks

This two-year diploma program is designed to enable students to acquire the entry level knowledge and skills needed to work as administrative professionals in today's modern office.

The major components of the program include document production, office management, personal and career growth with a service-learning element, social media management and current software programs. Related courses include communications, bookkeeping, computerized accounting, electronic spreadsheets, and organizational behaviour.

OBJECTIVES

Upon successful completion of the Executive Office Management program, graduates will be able to:

1. Design and create business documents using integrated software at an advanced level for effective communication.
2. Integrate professional communication and office management practices for application in the office environment.
3. Apply program learning in the business environment through experiential learning opportunities for enhanced industry networking.
4. Demonstrate application of the Conference Board of Canada employability skills for successful entry into the workplace.

CAREER OPPORTUNITIES

Graduates of the diploma program may expect to find employment opportunities in both the public and private sectors, including all levels of government, legal and medical offices, accounting firms, hospital and education facilities, and general business offices. As well as acquiring skills and knowledge necessary to become effective employees in today's electronic office, graduates may gain insight into the creation of a small business of their own. Graduates are trained for the following specific positions: administrative assistant, word processing operator, executive assistant, computerized bookkeeper, data processor, microcomputer specialist, receptionist, office assistant, as well as additional employment opportunities depending on electives selected.

PROGRAM TRANSFERABILITY

The Office Administration programs offer exit points after Year 1 and Year 2:
- Students can graduate at the end of Year 1 with an Office Administration Certificate
- Students graduate at the end of Year 2 with an Executive Office Management Diploma

ENTRANCE REQUIREMENTS

Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School

High School Graduation

2. Comprehensive Arts and Science Certificate (College Transition program)

3. Adult Basic Education

Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile)

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, must be at least 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

ACCREDITATION

Executive Office Management is accredited by the Accreditation Council for Business Schools and Programs (ACBSP) in all campus locations. ACBSP is the leading specialized accreditation association for business education supporting, celebrating, and rewarding teaching excellence.

Medical Office Management

DIPLOMA

- **Two Years**
- **September**
- **Distributed Learning, and Prince Philip Drive Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
AC1100	Bookkeeping I	4	3	2
CM1100	Writing Essentials	3	3	1
DM1200	Document Production I	6	4	6
EP1110	Introduction to Business	4	4	0
OF1105	Personal and Career Growth	3	2	3
Semester 2		**Cr**	**Le**	**La**
AC2100	Bookkeeping II	4	3	2
CM2110	Business Writing Fundamentals	3	3	0
DM1300	Transcription	4	3	2
DM1210	Document Production II	6	4	6
OF1101	Operational Management	4	3	2
Semester 3 (Intersession)		**Cr**	**Le**	**La**
CP2310	Electronic Spreadsheets	3	2	2
OF1305	Digital Tools for the Office	3	2	2

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4		**Cr**	**Le**	**La**
BL1330	Anatomy	4	4	0
CM2200	Oral Communications	2	2	0
DM1400	Medical Transcription I	3	2	4
DM2200	Document Production III	6	4	6
OF2400	Medical Office Management I	3	3	1
TM1100	Medical Terminology I	2	2	0
Semester 5		**Cr**	**Le**	**La**
DM1405	Medical Transcription II	4	3	3
DM2240	Document Production IV	6	4	6
OF2300	MCP Billing	2	2	1
OF2401	Medical Office Management II	4	4	1
TM2100	Medical Terminology II	2	2	0
OF2700	Career Readiness	2	2	0
Semester 6(Intersession II)		**Cr**	**Le**	**La**
OJ1920	Work Exposure-Medical	C/I		6 wks

This two-year diploma program is designed to provide students with a focused study of medical office management theories and practices through hands on learning and simulation exercises needed to be successful in a medical office environment.

The major areas of the program include confidentiality, empathetic patient care, efficient medical office management practices, effective communications, document production, medical transcription, medical terminology, ethics, and medical office management. Students also utilize current software and medical office practices for document production, electronic and paper medical records, effective human relations skills, scheduling methods, patient record information management, medical billing, and various current computer applications.

OBJECTIVES
Upon successful completion of the Medical Office Management program, graduates will be able to:

1. Create advanced medical and business documents using extensive knowledge of medical terminology and integration of current software for professional and effective communication between patients, visitors, health care professionals and all stakeholders.
2. Manage a medical office by integrating current technologies to perform duties adhering to industry standards of ethics, confidentiality, professionalism, and compassionate patient care while applying effective office management practices.
3. Apply program learning in a medical office environment though experiential learning opportunities for enhanced industry networking and development of skills.
4. Demonstrate application of the Conference Board of Canada employability skills for successful entry into the workplace.

CAREER OPPORTUNITIES
Graduates of the diploma program may expect to find employment opportunities in various medical environments including hospital departments, long-term care facilities, general practitioners' and specialists' clinics, health boards, government departments, as well as in allied health care facilities such as chiropractics, physiotherapy, occupational therapy, massage therapy, mental health, and counselling services. Graduates are also prepared to work in community clinics, public health, dental, and optometry practices. As well as acquiring skills and knowledge necessary to become effective employees in today's electronic office, graduates will have extensive knowledge and skills in document production, medical transcription, medical terminology, anatomy, MCP Billing, electronic medical records, medical office management, and other related areas. Graduates are trained for the following specific positions: medical administrative assistant, medical office assistant, dental office assistant, medical receptionist, medical records clerk, and medical transcriptionist.

PROGRAM TRANSFERABILITY
The Office Administration programs offer exit points after Year 1 and Year 2.
* Students can graduate at the end of Year 1 with an Office Administration Certificate
* Students graduate at the end of Year 2 with a Medical Office Management Diploma

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Comprehensive Arts and Science Certificate (College Transition program)
3. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile)
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

ACCREDITATION
Medical Office Management is accredited by the Accreditation Council for Business Schools and Programs (ACBSP) in all campus locations. ACBSP is the leading specialized accreditation association for business education supporting, celebrating, and rewarding teaching excellence.

BUSINESS

Office Administration
CERTIFICATE
• **One Year**
• **September**
• **Baie Verte Campus**
• **The Office Administration Certificate program will be delivered via Distributed Learning with additional learning resources available at Baie Verte Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
AC1100	Bookkeeping I	4	3	2
CM1100	Writing Essentials	3	3	1
DM1200	Document Production I	6	4	6
EP1110	Introduction to Business	4	4	0
OF1105	Personal and Career Growth	3	2	3
Semester 2		**Cr**	**Le**	**La**
AC2100	Bookkeeping II	4	3	2
CM2110	Business Writing Fundamentals	3	3	0
DM1300	Transcription	4	3	2
DM1210	Document Production II	6	4	6
OF1101	Operational Management	4	3	2
Semester 3 (Intersession)		**Cr**	**Le**	**La**
CP2310	Electronic Spreadsheets	3	2	2
OF1305	Digital Tools for the Office	3	2	2

Graduates from the certificate program will acquire knowledge and office skills for entry-level employment in the office of today.

OBJECTIVES
Upon successful completion of the Office Administration program, graduates will be able to:

1. Produce business documents using current software for effective communication.
2. Demonstrate professional office and communication skills for success in a business environment.
3. Demonstrate competency of recording financial transactions and creating financial statements to complete an accounting cycle.
4. Demonstrate application of the Conference Board of Canada employability skills for successful entry into the workplace.

CAREER OPPORTUNITIES
Graduates from the certificate program may obtain employment as an entry-level administrative assistant, office clerk, data entry clerk, or word processing operator.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Comprehensive Arts and Science Certificate (College Transition Program)
3. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile)
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

PROGRAM TRANSFERABILITY
The Office Administration Program offers exit points after Year 1 and Year 2.

Year 1: The first year is a common year at the end of which students may graduate with an Office Administration Certificate.
Year 2: **Students going on to complete the diploma program can select one area of specialization for the second year from the following options: Executive Office Management, Legal, Medical, Records and Information Management.**

Office Administration (Legal)

DIPLOMA

• **Two Years**
• **September**
• **Prince Philip Drive Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
AC1100	Bookkeeping I	4	3	2
CM1100	Writing Essentials	3	3	1
DM1200	Document Production I	6	4	6
EP1110	Introduction to Business	4	4	0
OF1105	Personal and Career Growth	3	2	3
Semester 2		**Cr**	**Le**	**La**
AC2100	Bookkeeping II	4	3	2
CM2110	Business Writing Fundamentals	3	3	0
DM1300	Transcription	4	3	2
DM1210	Document Production II	6	4	6
OF1101	Operational Management	4	3	2
Semester 3 (Intersession)		**Cr**	**Le**	**La**
CP2310	Electronic Spreadsheets	3	2	2
OF1305	Digital Tools for the Office	3	2	2

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

		Hrs/wk		
Semester 4		**Cr**	**Le**	**La**
AC2230	Computerized Accounting I	3	2	3
CM2200	Oral Communications	2	2	0
DM1310	Legal Transcription I	3	2	2
DM2210	Legal Document Production I	6	4	7
LW1100	Business Law	2	2	1
OF2500	Legal Office Procedures I	3	3	1
Semester 5		**Cr**	**Le**	**La**
DM2420	Legal Transcription II	3	2	2
DM3250	Legal Document Production II	8	5	8
OF2530	Legal Office Procedures II	4	3	2
OF2700	Career Readiness	2	2	0
Elective	(minimum 2-4 credits)	2-4	2-4	0
Semester 6 (Intersession II)		**Cr**	**Le**	**La**
OJ1910	Work Exposure-Legal	C/I	6 wks	

This two-year diploma program is designed to enable students to become administrative assistants in a legal or general office environment.

The program provides students with extensive knowledge and skills in the formatting and production of legal and general documentation, legal terminology, legal transcription and office management tasks.

Related courses include communications, computerized accounting, organizational behaviour and computerized business applications.

OBJECTIVES
Upon successful completion of the program, graduates will be able to:

1. Demonstrate a positive attitude in a business environment to help ensure successful integration into the workplace.
2. Independently organize and manage the activities of an administrative workplace environment for effective and efficient performance.
3. Demonstrate effective written and oral communication skills for use in the business environment.
4. Utilize effective interpersonal and teamwork skills to adapt to various business/community working environments.
5. Conduct research; analyze and present relevant data for use in a business environment.
6. Record financial transactions using generally accepted accounting principles for use in a business environment.
7. Utilize and integrate technology to produce business documents at an advanced level using standard document formatting guidelines.

CAREER OPPORTUNITIES
Graduates of the diploma program may expect to find employment opportunities in both the public and private sectors, including all levels of government, as well as legal firms, provincial and supreme courts, and other government and corporate legal departments. As well as acquiring skills and knowledge necessary to become effective employees in today's electronic office, graduates will be knowledgeable in the areas of civil litigation, incorporation, real estate, wills, estates, and family law. Graduates are trained for the following specific positions: legal administrative assistant, legal assistant, court clerk I, court officer I, judicial assistant, legal transcriptionist, and administrative officer.

PROGRAM TRANSFERABILITY
The Office Administration programs offer exit points after Year 1 and Year 2.
* Students can graduate at the end of Year 1 with an Office Administration Certificate
* Students graduate at the end of Year 2 with an Office Administration Diploma

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Comprehensive Arts and Science Certificate (College Transition program)
3. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile)
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

ACCREDITATION
Office Administration (Legal) is accredited by the Accreditation Council for Business Schools and Programs (ACBSP). ACBSP is the leading specialized accreditation association for business education supporting, celebrating, and rewarding teaching excellence.

Records and Information Management

DIPLOMA

• **Two Years**
• **September**
• **Distributed Learning, and Prince Philip Drive Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
AC1100	Bookkeeping I	4	3	2
CM1100	Writing Essentials	3	3	1
DM1200	Document Production I	6	4	6
EP1110	Introduction to Business	4	4	0
OF1105	Personal and Career Growth	3	2	3
Semester 2		**Cr**	**Le**	**La**
AC2100	Bookkeeping II	4	3	2
CM2110	Business Writing Fundamentals	3	3	0
DM1300	Transcription	4	3	2
DM1210	Document Production II	6	4	6
OF1101	Operational Management	4	3	2
Semester 3 (Intersession)		**Cr**	**Le**	**La**
CP2310	Electronic Spreadsheets	3	2	2
OF1305	Digital Tools for the Office	3	2	2

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4		**Cr**	**Le**	**La**
CM2200	Oral Communications	2	2	0
DM2200	Document Production III	6	4	6
OF2100	Career Planning Strategies	4	3	2
RP1100	Introduction to Records Management	3	3	1
RP1200	Archives Principles	2	2	0
RP1301	Document Control Processes	2	2	0
CP1010	File Management & Security	2	1	2
Semester 5		**Cr**	**Le**	**La**
DM2240	Document Production IV	6	4	6
CP2110	Advanced Electronic Spreadsheets	3	2	2
RP1205	Document Management Systems & Records Control	4	4	0
RP1400	Information Security and Procedures	2	2	0
RP2200	Classification Systems	2	2	1
OF2700	Career Readiness	2	2	0
Semester 6 (Intersession II)		**Cr**	**Le**	**La**
OJ1930	Work Exposure-RIM	C/I		6 wks

This two-year diploma program is designed to provide students with an intense study of records and information theories and practices. Students will obtain hands on experience through simulation exercises to prepare them for employment in the field of Records and Information Management.

The major components of the program include Management and Control of Records, File Management and Information Security, Archives Principles, and Classification Systems. Related courses include Communications, Document Production, Office Management, Bookkeeping, Digital Tools for the Office, and Advanced Electronic Spreadsheets. Students will also receive participatory training with an Electronic Document Management System.

OBJECTIVES
Upon successful completion of the Records and Information Management program, graduates will be able to:

1. Manage records using extensive knowledge of information management principles ensuring quality control and improvement.
2. Demonstrate ability to administer records management systems in accordance with retention policies by verifying accuracy and adherence to current legislation.
3. Design and create business documents using integrated software at an advanced level for effective communication in the office environment.
4. Demonstrate application of the Conference Board of Canada employability skills for successful entry into the workplace.

CAREER OPPORTUNITIES
Graduates of the diploma program may expect to find employment opportunities in public and private sectors including government, oil and gas, healthcare, legal offices, educational facilities, and general offices. As well as acquiring skills and knowledge necessary to become effective employees in today's electronic office, graduates will have extensive knowledge and skills in information protection, management and control of records, confidentiality and security, document production, office management, plus other related areas. Graduates are trained for the following specific positions: information management technician (IM Tech I, II, or III), document control clerk, document control technician, information management coordinator, and archives assistant.

PROGRAM TRANSFERABILITY
The Office Administration programs offer exit points after Year 1 and Year 2.
* Students can graduate at the end of Year 1 with an Office Administration Certificate
* Students graduate at the end of Year 2 with an Records Information Management Diploma

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Comprehensive Arts and Science Certificate (College Transition program)
3. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile)
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

ACCREDITATION
Records and Information Management is accredited by the Accreditation Council for Business Schools and Programs (ACBSP) in all campus locations. ACBSP is the leading specialized accreditation association for business education supporting, celebrating, and rewarding teaching excellence.

INFORMATION TECHNOLOGY

Computer Systems and Networking

DIPLOMA

• **Two Years**
• **September**
• **Corner Brook, and Prince Philip Drive Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
CM1400	Technical Report Writing I	3	3	0
MA1521	Applied Mathematics for CSN	3	3	1
CP1465	Windows Server Administration	4	3	2
CR1107	Network Fundamentals	4	3	3
CR1020	Desktop Application Support	3	2	2
CP3125	Command Line and PowerShell	3	2	2
CR1120	Introduction to the Field of IT and Ethics	0	1	0
Semester 2		**Cr**	**Le**	**La**
CM1401	Technical Report Writing II	3	3	0
CR1030	Linux Server Administration	3	2	3
CP2730	Project Management and Analysis	3	2	2
CP1923	Computer Hardware and Troubleshooting I	4	3	3
CR2402	Switching, Routing & Wireless	4	3	3
CR1260	Client Service for the IT Industry	2	2	1
Semester 3 (Intersession)		**Cr**	**Le**	**La**
CR3456	Scripting with Bash	3	2	2
CP1927	Computer Hardware and Troubleshooting II	4	3	3
EP1130	Business for Information Systems	3	3	0

The Lecture and Lab hours per week are based on a 15 week semester. In intersession, the Lecture and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4		**Cr**	**Le**	**La**
CM2200	Oral Communications	2	2	0
CP1332	Advanced Windows Enterprise Server	3	2	3
CR2231	Microsoft Exchange Server	4	3	3
CR2903	Enterprise Network Security & Automation	4	3	3
CR2241	Information Systems Security	4	3	2
CR2511	Advanced Linux Server Administration	3	2	3
Semester 5		**Cr**	**Le**	**La**
CR2950	Emerging Trends in IT Infrastructure	3	2	2
CR2252	Intro to Amazon Web Services	4	3	3
CR2260	Virtualization and Cloud Computing	4	3	2
CR2130	Enterprise Client Management	4	3	2
CR2970	Capstone Project	4	3	2
CR2270	CSN WT Orientation C/I20			
Semester 6		**Cr**	**Le**	**La**
WT1185	Work Term	5	15 wks	

The Computer Systems and Networking two-year program focuses on the skills, competencies and attitudes required to research, design, install and maintain computer systems and network infrastructure in a highly available and secure computing environment. The program combines theoretical and practical learning experiences in a team-oriented setting encompassing front-line computer systems, back-end server environments and the local and wide-area network infrastructure. The Infrastructure Support industry is customer-oriented and requires a high level of customer interaction and professionalism. These critical skills are developed through a number of courses in this program.

The program includes course work, team-oriented projects, and a final 15-week work term focusing on areas of technical learning, team building, communications, interpersonal skills, ethics, and best practices. This diversity provides opportunities for the student to acquire the skills, professionalism and adaptability required to succeed in the dynamic and challenging field of Information Technology infrastructure support.

The capstone project will enable the student to demonstrate the application of knowledge and skills developed throughout the program by performing an in-depth study of a problem, design, or technological application and fully documenting and presenting the findings.

OBJECTIVES
The aim of the Computer Systems and Networking program is to graduate a student with the theoretical and practical skills in information technology infrastructure support. This will enable her/him to:

1. provide computer technical assistance, support, and advice to customers and other users
2. install, modify and repair computer hardware and software
3. support local-area networks (LAN), wide-area networks (WAN), network segments, and Internet and intranet systems
4. design an organization's computer system in which all of the components including computers, the network, and software, work properly together
5. plan, coordinate, and implement the organization's information security policy
6. interpret and effectively apply industry procedures and policies in the workplace
7. incorporate the social, interpersonal and communication skills necessary to be a productive member of a team
8. apply the self-awareness and reflective skills required to create, evaluate and modify personal growth and career plans

College of the North Atlantic is a Cisco Networking Academy. Students have the opportunity to complete courses in the Academy program which provide a strong foundation in computer networking knowledge and skills utilizing the equipment of the industry's leading provider. As well, College of the North Atlantic is the only accredited Cisco Academy Instructor Training Center in Atlantic Canada.

EMPLOYMENT OPPORTUNITIES
Interconnected computing systems are an integral part of every business and the Computer Systems and Networking graduates are well suited to a broad range of computing infrastructure roles. These roles can be included, but not limited to:

Computer Support Specialist
Network Specialist
Computer Support Technician
LAN Team Member
I.T. Support Technician
Help Desk Technician
Server Support Analyst/Technician
Help Desk Analyst
Technology Support Analyst

ENTRANCE REQUIREMENTS
Eligibility for admission to Computer Systems and Networking program requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English 3201 or English 3202 (60% minimum)
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Five credits at the 3000 Level
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
    Math Fundamentals: MA1040, MA1041
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Business-Related College Profile including the following courses (or equivalent):
i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
    ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
Applicants with Adult Basic Education (Level III) Graduation with a different profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4. Mature Student Requirements

Applicants who do not meet the educational prerequisites for this program, must be at least 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Enterprise Web Development

DIPLOMA
- **Two Years**
- **September**
- **Distributed Learning Campus**

COURSES

CODE	TITLE	Cr	Le	La
Semester 1 Fall		**Cr**	**Le**	**La**
CM1400	Technical Report Writing I	3	3	0
CP1855	Introduction to Programming with Python	6	5	3
MA1900	Problem Solving for Information Technology	4	4	1
CR1511	Website Development	3	2	2
EP1130	Business for Information Systems	3	3	0
CP1212	Introduction to JavaScript	3	2	2
Semester 2 Winter		**Cr**	**Le**	**La**
CM1401	Technical Report Writing II	3	3	0
CP3510	Relational Database Design	3	2	2
CP1895	Advanced Python Programming	4	3	2
CP1501	Business & E-Commerce	3	2	2
CP1292	JavaScript and NodeJS	3	2	2
CP1410	E-Commerce Web Analysis and Design	4	3	2
Semester 3 Intersession		**Cr**	**Le**	**La**
CP1505	Designing Effective E-Commerce Sites	4	3	3
CP1580	Using Internet APIs	3	2	2
Semester 4 Fall		**Cr**	**Le**	**La**
CR1355	OS and Network Technologies	3	2	3
CP2426	PHP	3	2	3
CR2800	Security for Programmers	3	3	0
CP2010	Frameworks	3	2	3
CP2070	Social Media Management	3	2	2
CP2030	AWS Cloud Development	3	2	2
Semester 5 Winter		**Cr**	**Le**	**La**
CP2080	Salesforce Development	4	3	2
CP2205	Advanced PHP Laravel	3	2	3
CP2075	Digital Analytics	3	2	3
CP3105	Word Press323			
CP3155	UI/UX Design	3	2	3
Semester 6 Spring		**Cr**	**Le**	**La**
PR3000	Applied E-Commerce Website Project	3	2	3
CP4475	Emerging Trends and Innovation	3	2	2
CP2085	Orientation to the EWeb Work Exposure	0	1	0
OJ3106E	Web Work Exposure	0	0	7 wks

Semester 6 - Spring will be 14 weeks. Students will complete PR3000, CP4475 and CP2085 in the first seven (7) weeks of the semester. The seven (7) week EWeb Work Exposure (OJ3106) will commence following successful completion of these three (3) courses.

The web development and e-commerce fields are experiencing unprecedented growth as companies shift their businesses online. Professionals in this industry use software development skills and business knowledge to build, program and manage websites to attract customers and increase e-commerce revenue. The need exists for a technology program that focuses on a combination of Business and IT training to prepare graduates for the increased automation of the global marketplace.

The six-semester Enterprise Web Development diploma is an entry-level program designed for students to develop the competencies to program, design, configure, and maintain secure transaction-based websites on the Internet. Students will be able to build a web presence utilizing different frameworks and software to create a professional, efficient website where clients and customers can interact.

Students will learn how to utilize customer relationship management (CRM) systems, content management systems (CMS), social media management systems and enterprise resource planning (ERP) systems to strengthen and streamline how end-to-end transactions occur in both large corporations and small-medium sized companies.
Students will be able to monitor the day-to-day activity and overall performance of websites to improve user experience and increase traffic while executing ad campaigns on search engines using the latest digital marketing tools and strategies.

The applied e-commerce website project in semester six (6) will give students the opportunity to demonstrate the application of knowledge by conducting an in-depth study of a problem, design, or industry project and documenting, and presenting the results. The final semester also includes a seven-week work exposure which gives the students an opportunity to apply their knowledge and skills in the workplace.

OBJECTIVES
Upon successful completion of the Enterprise Web Development diploma program, graduates will be able to:

1. Execute a vision for commerce sites aligned with a company's business strategy
2. Apply effective communication strategies to written and verbal output
3. Utilize critical thinking skills in analysis of day-to-day tasks
4. Develop secure e-commerce web software platforms
5. Maintain e-commerce websites and software platforms
6. Ensure e-commerce sites are properly integrated with backend systems including pricing inventory and customer relationship databases
7. Enable business transactions to be conducted on commercial websites
8. Implement a website solution based upon a set of business requirements or client specifications
9. Utilize content management systems (CMS) integrating databases and scripting languages
10. Develop data-driven websites for multiple platforms in accordance with best practices, security, usability, accessibility, and personalization
11. Implement customer relationship management (CRM) and social media management systems
12. Integrate enterprise resource planning (ERP) solutions
13. Implement UI/UX (User experience design/User interface design) cross-browser compatibility
14. Create a web presence utilizing programming languages such as Python, HTML, CSS, JavaScript, and API's

ENTRANCE REQUIREMENTS
Eligibility for admission to the Web Development program requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Certificate with 60% overall average in the following (or equivalent):
i. English 3201 or English 3202(60% minimum)
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. 5 credits from 3000 Level
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math Fundamentals: MA1040, MA1041
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Business-Related College Profile including the following courses (or equivalent):
i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

INFORMATION TECHNOLOGY
Information Management
POST DIPLOMA
• **One Year**
• **September**
• **Distributed Learning Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
OP1390	Records and Information Management I	4	3	2
EP2130	Business Principles and Practices	4	3	2
CR1280	IM Computer Concepts	2	2	1
CM1370	IM Communications	4	4	0
CP2410	Micro Database Applications	3	2	2
PR2700	Project Management	4	3	2
Semester 2		**Cr**	**Le**	**La**
OP1401	Records and Information Management II	4	3	2
CP3470	IM Systems Analysis and Design	6	5	3
OP1600	Electronic Records Management	4	3	2
OP1320	Classification	4	3	2
CR1360	IM Security	4	3	2
Semester 3		**Cr**	**Le**	**La**
CR3540	Capstone Project	4	0	6
LW1280	Information Management Law	3	3	0

The Information Management professional organizes and manages all activities involved in the information life cycle. This is an on-line program designed to provide the student with the knowledge, skills and attitudes needed to function in this role.

The program is designed so that the student gains knowledge and skills in:

- the theory of records and Information Management (IM)
- the operation of IT infrastructure and its relation to IM
- information security and its relation to IM
- the legal environment that impacts IM
- project management
- analysis and design
- educational workshop design and delivery

The student will complete a capstone project where she/he will apply her/his knowledge and skills to analyze and design a solution to an IM problem. Effective communication and interpersonal skills are emphasized throughout the curricula.

OBJECTIVES

The objective of the Information Management program is to develop graduates with the ability to:

1. organize and manage all activities involved in the record life cycle
2. efficiently gather and analyze data required to inform the information management processes of an organization
3. conduct themselves professionally in a business environment
4. participate as a member of a team involved in information management policy development and implementation
5. advocate the importance of and advise on Information Management policies and procedures throughout the organization through education, training and consultation
6. utilize and integrate technology to manage enterprise records and content at an advanced level conforming to the Information Management policies

ACADEMIC ADVISING

Each student will be assigned an academic advisor to help guide you through the college experience. He or she is trained to advise you on college-related issues or to make mutually agreed upon referrals for you to other college professionals.

Students intending to complete the program on a part-time basis (less than four courses per semester) will be contacted by her/his advisor to create an academic plan that will enable them to complete the program. A part-time student must complete the program within five years from the date of program enrolment.

EMPLOYMENT OPPORTUNITIES

Graduates of the Information Management program can expect to find employment as Information Management Analysts, Records Analysts, and Records Management Consultants in industries such as oil & gas, healthcare and in government agencies.

Due to the nature of this field, employers may require a clear Certificate of Conduct from the Royal Newfoundland Constabulary (RNC), the Royal Canadian Mounted Police (RCMP) or local provincial/municipal police force prior to hiring.

ENTRANCE REQUIREMENTS

Graduation from a recognized two or three year post-secondary diploma or degree, or a combination of other postsecondary work and industry experience acceptable to the College.

Software Development (Co-op)
DIPLOMA
• **Three Years**
• **September**
• **Corner Brook, and Prince Philip Drive Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
CM1400	Technical Report Writing I	3	3	0
CP1555	Intro to Relational Databases	3	2	2
CP1850	Procedural Programming	6	5	3
MA1900	Problem Solving for IT	4	4	1
CP1461	Operating Systems	3	2	2
CR1130	Intro to the Field of SD	1	1	0
CP1420	Web & Mobile App Development	2	2	1
Semester 2		**Cr**	**Le**	**La**
CM1401	Technical Report Writing II	3	3	0
CP3415	Fundamentals of Database Design	4	3	2
CP1935	Systems Analysis I	4	3	2
CP1890	Object-Oriented Programming	4	3	3
CP1520	Web Development	3	2	2
CR2800	Security for Programmers	3	3	0
PD1105	Prof. Development I	1	1	0
Semester 3		**Cr**	**Le**	**La**
WC1155	Work Term I	5	0	0
Semester 4		**Cr**	**Le**	**La**
EP2410	Business Solutions for App Developers	4	4	0
CM2200	Oral Communications	2	2	0
CP1210	JavaScript	4	3	2
CP2280	Object-Oriented Programming in Java	4	3	2
CP4265	SQL Programming	4	3	2
CP1945	Systems Analysis II	4	3	3
PD2310	Prof. Development II	1	1	0
Semester 5		**Cr**	**Le**	**La**
WC2151	Work Term II	5	0	0
Semester 6		**Cr**	**Le**	**La**
CP4471	Emerging Trends in Software	3	2	2
CP2561	Java Programming II	4	3	2
CP4281	Programming for Mobile Devices	3	2	3
CR1350	Computer and Network Technologies	3	2	2
CP2845	Database Programming with .NET	4	3	3
CP1290	Advanced JavaScript	3	2	1
Semester 7		**Cr**	**Le**	**La**
WC3151	Work Term III	5	0	0
Semester 8		**Cr**	**Le**	**La**
CP3000	Emerging Trends in Applied SD	3	2	2
CR2980	Capstone Project	4	3	2
CP2285	Big Data Programming with Java	4	3	3
CP3010	Server Side Programming	4	3	2
PD2140	Work Term Seminar	P/F	1	0
CP3565	Applied Java Programming	4	3	2

The Software Development (Co-op) three-year program focuses on the competencies required to design, implement, and maintain software systems that operate in a secure business networked environment containing stationary and mobile devices. The program combines theoretical and practical learning experiences in a team-oriented setting.

The program includes course work, team projects, and three co-op placements. The program focuses on application development, database design and development, systems analysis, team building, communications, interpersonal skills, ethics, and best practices. This diversity provides opportunities for the student to acquire the skills, professionalism and adaptability required to succeed in the dynamic and challenging field of programming.

This is a co-operative education program that offers the student work term placements in May of the first academic year, in January of the second academic year and in September of the third academic year.

OBJECTIVES
Graduates of the Software Development (Co-op) program will have the knowledge and skills that will allow them to:

1. work effectively and efficiently in the Information and Communication Technology industry
2. be knowledgeable of the ethics, professionalism, safety and diversity in the work environment
3. demonstrate effective communications skills, a capacity for leadership, adaptability, responsible teamwork, quality assurance and co-operation in problem solving
4. write and maintain secure, customized web applications based on user requirements
5. analyze, design, develop, test, deploy and maintain full stack applications
6. possess practical programming skills enabling them to function as an entry level programmer in an object-oriented, database-oriented business programming environment
7. have in-depth understanding of object-oriented programming practices including database layer development on all dominate mobile and cloud ecosystems
8. understand and apply application security best practices when developing applications

EMPLOYMENT OPPORTUNITIES
Software Development graduates may find employment in both the private and public sectors.

Graduates of the program will be able to fill roles in industry such as:
- Application Developer
- Business Developer
- Software Developer
- Web Developer
- Computer Programmer
- Mobile App Developer
- Database Developer

ENTRANCE REQUIREMENTS
Eligibility for admission to Software Development (Co-op) program requires the applicant to meet one of the following four academic criteria:

1. High School
Provincial High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English 3201 or English 3202(60% minimum)
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. 5 credits from 3000 Level
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math Fundamentals: MA1040, MA1041
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Business-Related College Profile including the following courses (or equivalent):
i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, and 3101C
Applicants with Adult Basic Education (Level III) Graduation with a different profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, are 19 years of age or older, and have been out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

School of Engineering Technology

Architectural Engineering Technology

DIPLOMA
- **Three Years**
- **September**
- **Ridge Road Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1 and 2 - Refer to Engineering Technology (First Year)				

Semester 3 (Intersession)		**Cr**	**Le**	**La**
CF2610	Building Materials I	2	2	1
DR1400	Wood Frame Construction	1	1	0
DR2150	Architectural Drawings	2	1	3
EG1240	Architectural Graphics I	2	1	3
BU2130	Service Learning	1	1	0

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4 (Fall)		**Cr**	**Le**	**La**
BU2250	Electrical Systems	3	2	3
BU2300	Building Codes I	2	2	0
BU2410	Building Science I	3	3	0
CM2800	Oral/Written Communication Skills	3	3	0
DR3110	Working Drawings I	6	4	6
EG1250	Architectural Graphics II	3	2	4

Semester 5 (Winter)		**Cr**	**Le**	**La**
BU2301	Building Codes II	2	2	0
BU2411	Building Science II	3	3	0
CF2611	Building Materials II	3	3	1
DR3111	Working Drawings II	6	4	6
EG2250	Architectural Graphics III	2	1	3
MA2100	Mathematics	5	5	0

Semester 6 (Intersession)		**Cr**	**Le**	**La**
BU2260	Plumbing Systems	2	2	1
CG1700	Environmental Design	2	2	0
CG1800	Building Site Development	4	3	4

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 7 (Fall)		**Cr**	**Le**	**La**
BU2270	HVAC	5	4	3
CF3620	Building Materials III	2	2	0
CG3230	Procurement & Contract Administration	5	5	0
DR4120	Working Drawings III	5	3	7
MA1530	Statistics	2	2	1
PR2750	Capstone Project I (Seminar)	*P/F	1	0

*The credit hour from PR2750 Capstone Project I (Seminar) in Semester 7 is allotted to PR2751 Capstone Project II in Semester 8.

Semester 8 (Winter)	Cr	Le	La
BU3300 Building Specifications	3	3	1
CF3440 Structural Design	4	3	2
CG3320 Estimating for Buildings	4	3	3
DR4111 Working Drawings IV	4	2	6
LW1610 Management & Construction Law	2	2	0
PR2751 Capstone Project II	*4	3	0

Buildings are an exciting and vital part of our physical environment. Not only must they provide shelter, but they must do it in a way which provides safe, healthy, and comfortable environments which can be built and operated within given cost guidelines. To achieve these goals buildings have become complex structures requiring teams of specialists. An important member of the design and construction team is the Architectural Engineering Technology program graduate.

The Architectural Engineering Technology program has been developed in response to provincial needs with input from professionals associated with the design and construction of buildings. Projects and assignments are designed to be as close as possible to the type of work graduates will encounter when entering the workforce.

Every effort is made to expose the student to the latest technology. Computers are used as a tool in problem solving in many technical courses. Microcomputers, computer aided drafting (CAD) equipment, and a variety of architectural and engineering software packages are made available to students to carry out their projects and assignments.

Graduates completing this program are automatically eligible for membership in the Association of Engineering Technicians and Technologists of Newfoundland and Labrador (AETTNL), as well as any similar association in Canada.

Upon completion of this program graduates may choose to further their education by completing a bachelor degree in technology or engineering at one of several institutions that have articulation agreements with College of the North Atlantic.

ACCREDITATION
This program is accredited by the Canadian Technology Accreditation Board under the mandate of the Canadian Council of Technicians and Technologists.

The academic credentials of graduates of accredited technology programs are recognized internationally by the signatories of the Sydney Accord.

OBJECTIVES
As a graduate of the Architectural Engineering Technology program, graduates will have the knowledge and skill that will allow him/her to:

1. Prepare complete sets of architectural drawings and related documentation for residential and commercial construction/renovation projects.
2. Have a complete understanding of the basic architectural principles in building design and detailing.
3. Apply the principles of building science and construction engineering to analyze and solve technical problems for construction projects.
4. Understand the relationship between architectural, structural, mechanical, electrical, and environmental building systems.
5. Apply the principles of project management to planning, scheduling, and monitoring of project development.
6. Communicate effectively with clients, contractors, other building professionals and municipal authorities during the design and construction of the building project.
7. Apply knowledge of applicable codes, zoning bylaws, and regulations to the building project.

CURRICULUM
General education consisting of Project Management Skills (theoretical and applied), Communication Skills (oral and written), Mathematics, Physics, Chemistry, Electrical and Magnetic Theory, Engineering Graphics, Engineering Technology Awareness.

Specific education in various aspects (theory and principles) of the Architectural profession including building services, site supervision, project management and construction management.

Practical education in various aspects of working drawings, architectural utility systems, and architectural graphics layouts.

CAREER OPPORTUNITIES
The need is growing for people trained in building technology. Graduates may find employment in a variety of areas such as architectural firms, engineering firms, government departments, crown corporations, construction firms, manufacturing industries, and supply and sales companies.

Graduates with two years of progressive work experience may be eligible to receive the designation of Professional Technologist (P. Tech) upon completion of a Professional Practice and Ethics Exam.

CERTIFICATIONS
In addition to the formal courses listed in the program of studies, students in the Architectural Engineering Technology program are required to obtain a certificate of completion of Standard First Aid/Heart Start and WHMIS/OHS over their three-year period of studies.

*Students should be aware that additional fees may apply to external certifications.

ENTRANCE REQUIREMENTS
Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:
1. High School
High School Graduation Certificate with 60% overall average in the following (or equivalent):
i. English (2 credits) (minimum 60%) from: 3201
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Science (4 credits) two of which must be selected from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math (60% MINIMUM) MA1040, MA1041
ii. Two Science courses chosen from one of the following three combinations:
a. Introductory Biology: BL1020, BL1021
b. Introductory Chemistry: CH1030, CH1031
c. Introductory Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i. English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii. Science from one of the following sections:
a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Chemical Process Engineering Technology (Co-op)

DIPLOMA
• **Three Years**
• **September**
• **Ridge Road Campus**

COURSES

CODE	TITLE	Hrs/wk		

Semester 1 and 2 - Refer to Engineering Technology (First Year)

Semester 3 (Intersession)		Cr	Le	La
SE2150	Safety Certifications	P/F	0	0
SE1530	Occupational Health and Safety	4	4	0
PO1170	Industrial Chemical Processes	2	1	2
CF3205	Materials and Corrosion	3	3	1
MC1850	Spreadsheet Applications	1	0	2

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4 (Fall)		Cr	Le	La
CH2451	Industrial Chemistry I	4	3	2
CM2800	Oral/Written Communications	3	3	0
FM2102	Fluid Mechanics	3	3	1
MA2100	Mathematics	5	5	0
CL1110	Material Balancing	4	3	2
PE2801	Industrial Mechanical Systems	4	3	2

Semester 5 (Winter)		Cr	Le	La
CH3450	Industrial Chemistry II	4	3	3
TD2100	Thermodynamics	3	3	1
PO1180	Unit Operations and Process Design I	4	3	2
SP1420	Asset Maint. & Reliability	3	2	2
CI1130	Process Control I	4	3	2
PO2010	Water and Wastewater Treatment Operations	4	3	2

Semester 6 (Spring)		Cr	Le	La
WC1830	Work Term (Co-op) (Minimum 10/11 weeks)	5	0	0

Semester 7 (Fall)		Cr	Le	La
TD2120	Thermodynamics	3	3	1
PR3150	Project Management and Financial Analysis	4	4	0
CI1150	Process Control II	4	3	2
PO1190	Natural Gas Processing	4	3	3
PO1000	Mineral Processing I	5	4	2
PR2810	Capstone Project I (Seminar)	0	1	0

Semester 8 (Winter)		Cr	Le	La
SE3310	Process Safety and Risk Management	5	4	2
PO1210	Oil Refining	4	3	3
PO1220	Unit Operations and Process Design II	4	3	2
PO2000	Mineral Processing II	5	4	2
PR2811	Capstone Project II	*4	3	0

*The credit hour from PR2810 Capstone Project I (Seminar) in Semester 7 is allotted to PR2811 Capstone Project II in Semester 8.

Semester 9 (Spring)		Cr	Le	La
CI3821	Process Analyzers	4	3	3
EN3400	Environment Management and Protection	3	3	0
CI3200	Statistical Process Control	3	3	1

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Chemical Process Engineering Technologists play a vital role in the monitoring, operation, control and maintenance of equipment in a variety of industries including oil & gas. The program equips graduates with both the knowledge and practical skills necessary to begin their career as competent process operators and chemical engineering technologists.

The program covers safe work practices, process operations, chemical engineering principles and regulatory processes, process stream analysis, instrumentation and process control. Students will also acquire valuable work experience through the completion of a co-op work term.

Upon completion of this program graduates may choose to further their education by completing a bachelor degree in technology or engineering at one of several institutions that have articulation agreements with College of the North Atlantic.

ACCREDITATION
This program is currently accredited by the Canadian Technology Accreditation Board (CTAB), which was acquired by Technology Accreditation Canada (TAC) in November 2019. TAC operates under the mandate of the Canadian Council of Technicians and Technologists, and is now the only national accreditation body for Engineering Technician and Technologist Programs.

The academic credentials of graduates of both CTAB and TAC accredited technology programs are currently recognized internationally by the signatories of the Sydney Accord.

OBJECTIVES
As a chemical process engineering technologist, the graduate will have the knowledge and skills that will allow him/her to:

1. Assist in safe and efficient design, operation, troubleshooting, and maintenance of chemical process equipment.
2. Monitor and optimize petroleum, petrochemical, water and wastewater treatment processes.
3. Establish and maintain a safe work environment by adhering to and enforcing established safety standards, policies and procedures.
4. Work with other technologists, engineers and skilled trades persons to develop innovative solutions to problems in chemical process industries.
5. Work and communicate as members of a team with other professionals, as well as supervise the work of skilled professionals and trades persons in a variety of chemical processes and procedures.

CURRICULUM
General education consisting of Project Management Skills (theoretical and applied), Communication Skills (oral and written), Mathematics, Physics, Chemistry, Electrical and Magnetic Theory, Engineering Graphics, Engineering Technology Awareness.

Specific education in various aspects (theory and principles) of the chemical process control discipline including industrial chemistry, fluid mechanics, and mechanical systems.

Practical education in various aspects of chemical process applications including process controls, chemical reactors, and separation processes.

Work exposure consisting of field experience, gained from compensated work terms, in the field of chemical processes.

CAREER OPPORTUNITIES
Graduates of the Chemical Process Engineering Technology (Co-op) program can expect to find employment as process operators and technologists in areas such as oil & gas extraction and refining, offshore petroleum production installations, petrochemical industries, primary metal manufacturing, thermal power plants and water & waste treatment facilities.

Graduates with two years of progressive work experience may be eligible to receive the designation of Professional Technologist (P. Tech) upon completion of a Professional Practice and Ethics Exam.

Note: Students will also be required to complete a number of non-credit co-op education seminars throughout the program (resume writing, job search skills and interview preparation).

CERTIFICATIONS:
Students in the Chemical Process Engineering Technology (Co-op) program are required to obtain the following external certifications throughout the program:
- Workplace Hazardous Materials Information System (WHMIS)
- First Aid/CPR
- Transportation of Dangerous Goods

*Students should be aware that additional fees may apply to external certifications.

ENTRANCE REQUIREMENTS
Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:

1. High School
High School Graduation Certificate with 60% overall average in the following (or equivalent):
i. English (2 credits) (minimum 60%) from: 3201
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Science (4 credits) two of which must be selected from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i.   Math (60% minimum) MA1040, MA1041
ii.   Two Science courses chosen from one of the following three combinations:
a.   Introductory Biology: BL1020, BL1021
b.   Introductory Chemistry: CH1030, CH1031
c.   Introductory Physics: PH1050, PH1051
 Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both of the Introductory Chemistry courses and both of the Introductory Physics courses.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i.   English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii.   Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii.   Science from one of the following sections:
a.   Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b.   Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c.   Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and have been out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

ENGINEERING TECHNOLOGY

Civil Engineering Technology (Co-op)

DIPLOMA
- **Three Years**
- **September**
- **Corner Brook, and Ridge Road Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1 and 2 - Refer to Engineering Technology (First Year)				

Semester 3 (Intersession)		Cr	Le	La
CB2420	Construction Methods	4	4	0
DR1220	Engineering Drawing	2	1	4
SU1200	Plane Surveying	3	1	5

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

CERTIFICATIONS

Students in Civil Engineering Technology (Co-op) will be required to complete the following certificate courses during the second year of the studies:
- Standard First Aid/Heart Start
- WHMIS

*Students should be aware that additional fees may apply to external certifications.

Semester 4 (Fall)		Cr	Le	La
BU2120	Building Codes & Services	4	4	0
CF2530	Strength of Materials I	4	3	2
CF2710	Materials & Testing I	4	3	2
CM2800	Oral/Written Communication Skills	3	3	0
MA2100	Mathematics	5	5	0
SU1210	Construction Surveying	4	3	3

Semester 5 (Winter)		Cr	Le	La
CA2500	Highway Technology	4	3	2
CF2531	Strength of Materials II	4	3	2
CF2711	Materials & Testing II	4	3	2
DR1250	CADD Drawings	2	1	4
MA1530	Statistics	2	2	1
WA1160	Fluid Mechanics	4	4	0
WA1230	Hydrology	2	2	0

Semester 6 (Spring)		Cr	Le	La
WC1460	Work Term (12 weeks minimum)	5	0	0

Semester 7 (Fall)		Cr	Le	La
CA2110	Structures I	4	3	2
CA2320	Urban Development I	4	3	2
CA2810	Soils & Foundations I	4	3	2
CG2330	Planning & Estimating I	4	3	2
EN3110	Environmental Engineering	4	4	0
LW1600	Construction Law	3	3	0
PR2250	Capstone Project I (Seminar)	*P/F	1	0

*The credit hour from PR2250 Capstone Project I (Seminar) in Semester 7 is allotted to PR2251 Capstone Project II in Semester 8.

Semester 8 (Winter)		Cr	Le	La
CA2111	Structures II	4	3	2
CA2321	Urban Development II	4	3	2
CA2811	Soils & Foundations II	4	4	0
CG2331	Planning & Estimating II	4	3	2
EC1750	Construction Economics	3	3	0
HR2230	Human Relations	3	3	0
PR2251	Capstone Project II	*4	3	0

The field of civil design and construction plays a central role in the economic viability of many industries and the province as a whole. The civil field includes such areas as residential, commercial, and industrial buildings; harbours, airports, roads, and other transportation facilities; and municipal infrastructure.

Natural resource development projects (hydropower, oil and gas, mineral processing, etc.) will continue to create substantial employment opportunities for Civil Engineering Technology (Co-op) graduates.

The Civil Engineering Technology (Co-op) program will enable graduates to play an important role in the professional team which is responsible for the translation of ideas into the finished product. The program will ensure that the graduates understand the need for, and have the skills to contribute to, the cost effective and efficient planning of construction projects from concept to completion.

Graduates completing this program are automatically eligible for membership in the Association of Engineering Technicians and Technologists of Newfoundland and Labrador (AETTNL), as well as any similar association in Canada.

ACCREDITATION
This program has been accredited since 1996 (Corner Brook) and 1997 (St. John's) by the Canadian Technology Accreditation Board (CTAB) under the mandate of the Canadian Council of Technicians and Technologists. In 2019, Technology Accreditation Canada (TAC) became the sole accrediting body of engineering technology programs in Canada. TAC will recognize CTAB accredited programs until the accreditation transition period is complete. For this reason, accreditation for the Civil Engineering Technology (Co-op) program in St. John's is extended until March 2021, while the program in Corner Brook is accredited until March 2022.

Graduates with two years of progressive work experience may be eligible to receive the designation of Professional Technologist (P. Tech) upon completion of a Professional Practice and Ethics Exam.

This program is also CEWIL (Co-operative Education and Work-Integrated Learning) accredited.

The academic credentials of graduates of accredited technology programs are recognized internationally by the signatories of the Sydney Accord.

OBJECTIVES
A graduate of the Civil Engineering Technology (Co-op) program will have the knowledge and skills that will allow him/her to:
1. Analyze the structural reactions of engineering work.
2. Participate in the scheduling of civil engineering projects and monitor the work.
3. Assist in planning, designing, inspecting, supervising, and constructing civil engineering projects.
4. Plan and design municipal infrastructure projects.
5. Assist with designing, inspecting and troubleshooting of transportation infrastructure.
6. Design, calculate and test asphalt and concrete mixes to industry standards and specifications.
7. Carry out engineering survey and construction layouts using conventional survey instruments and GPS systems.

CURRICULUM
General education consisting of Project Management Skills (theoretical and applied), Communication Skills (oral and written), Mathematics, Physics, Chemistry, Electrical and Magnetic Theory, Engineering Graphics, Engineering Technology Awareness.

Specific education in various aspects (theory and principles) of the civil discipline including strength of materials, structures, fluid mechanics, soils & foundations, building codes & services and planning & estimating.

Practical education in various aspects of the civil discipline including CADD drawings, material testing, highway technology, construction surveying, BIM and GIS.

Work exposure consisting of field experience, gained from a compensated work term, in the field of civil engineering technology.

CAREER OPPORTUNITIES

Graduates may find employment with contractors, consultants, house builders, manufacturers, suppliers, municipalities, provincial and federal governments and their agencies, and many others involved in such projects as the design of off-shore and on-shore structures and facilities, testing and inspection of structural components, estimation, sales, construction surveying, and project management.

CERTIFICATIONS

In addition to the formal courses listed in the program of studies, students in the Civil Engineering Technology (Co-op) program are required to obtain a certificate of completion of Standard First Aid/Heart Start and WHMIS over their three-year period of studies.

ENTRANCE REQUIREMENTS

Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:

1. High School

High School Graduation Certificate with 60% overall average in the following (or equivalent):
i. English (2 credits) (minimum 60%) from: 3201
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Science (4 credits) two of which must be selected from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.

2. Comprehensive Arts and Science (CAS) Transition

Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math (60% MINIMUM) MA1040, MA1041
ii. Two Science courses chosen from one of the following three combinations:
a. Introductory Biology: BL1020, BL1021
b. Introductory Chemistry: CH1030, CH1031
c. Introductory Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.

3. Adult Basic Education (ABE)

Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i. English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii. Science from one of the following sections:
a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

ARTICULATION

Graduates of Civil Engineering Technology (Co-op) may continue their studies at Memorial University of Newfoundland in the Bachelor of Technology program or may wish to pursue studies at Cape Breton University in the Bachelor of Engineering Technology degree in Environmental Studies. Program graduates may also apply to Lakehead University's to complete a Bachelor of Engineering degree.

Computing Systems Engineering Technology (Co-op)

DIPLOMA

• **Three Years**
• **September**
• **Ridge Road Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1 and 2 - Refer to Engineering Technology (First Year)				

Semester 3 (Intersession)		Cr	Le	La
CI1110	Signals & Measurements	3	2	2
CP1270	Programming Fundamentals	3	2	2
CI1313	Fabrication Techniques/Network Cabling	3	2	3

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4 (Fall)		Cr	Le	La
AE2330	Analog Electronics I	6	5	3
CP1340	Object Oriented Programming	4	3	2
DP1110	Digital Systems I (Logic)	4	3	2
MA2100	Mathematics	5	5	0
MP2140	Circuit Analysis I	4	3	2

Semester 5 (Winter)		Cr	Le	La
CM2800	Oral /Written Communication Skills	3	3	0
CE1210	Basic Communications Networks I	4	3	3
CP2530	Data Structures & Algorithms	4	3	3
DP2120	Digital Systems II (Interfacing)	5	4	3
CT2530	POSIX Operating Systems	3	3	1
MA1530	Statistics	2	2	1

Semester 6 (Spring)		Cr	Le	La
WC1700	Work Term I (12 weeks minimum)	5	0	0

Semester 7 (Fall)		Cr	Le	La
AE3130	Active Circuit Applications	4	3	2
CE3371	Switching & Routing	4	3	2
CP3490	Software Engineering	3	2	3
CP3520	Databases	4	3	3
DP3200	Embedded Controller Applications	4	3	2
PR2760	Capstone Project I (Seminar)	*P/F	1	0

*The credit hour from PR2760 Capstone Project I (Seminar) in Semester 7 is allotted to PR2761 Capstone Project II in Semester 9.

Semester 8 (Winter)		Cr	Le	La
WC1701	Work Term II	5	0	0

Semester 9 (Spring)		Cr	Le	La
CE3381	Advanced Routing & Switching	4	3	2
CP3521	Web Programming	4	3	3
CP3810	iPhone Application Development	4	3	3
CP3831	Computer Graphics and Game Development	3	2	2
PR3150	Project Management & Financial Analysis	4	4	0
PR2761	Capstone Project II	*4	3	0

The Computing Systems Engineering Technology (Co–op) program prepares students for the field of scientific and engineering computing. A combination of programming theory and practice, networking, and electronics ensures the graduate will be prepared to work in the fields of cloud computing and mobile device application development, as well as develop the foundation for the emerging fields of machine learning and Big Data. Graduates will obtain theoretical foundations as well as practical hands on experience with analog electronics, digital systems, including logic, microprocessor interfacing, and embedded microcontrollers and applications. Students will work with mobile devices, robotic systems, and wireless control. Specialized skills in the software stream include, but will not be limited to, object-oriented programming, databases, networking, and modern web technologies. Graduates of this three year program receive the Diploma of Computing Systems Engineering Technology (Co-op).

Graduates completing this program are automatically eligible for membership in the Association of Engineering Technicians and Technologists of Newfoundland and Labrador (AETTNL), as well as any similar association in Canada.

Upon completion of this program graduates may choose to further their education by completing a bachelor degree in technology or engineering at one of several institutions that have articulation agreements with College of the North Atlantic.

Graduates enrolled in this program will also complete courses in the Cisco Networking Academy program which will place them on the path to Cisco certification at the CCNA level.

Note: This program may not be suitable for applicants who do not have normal colour perception.

ACCREDITATION:
This program is accredited by the Canadian Technology Accreditation Board under the mandate of the Canadian Council of Technicians and Technologists.

This program is also CEWIL Canada (Co-operative Education and Work-Integrated Learning Canada) accredited.

The academic credentials of graduates of accredited technology programs are recognized internationally by the signatories of the Sydney Accord.

OBJECTIVES
As engineering technologists, graduates of this program will have the knowledge and skills that will allow them to:

1. Analyze, build, implement, and maintain computing systems and applications.
2. Design, develop, and implement relational database management systems.
3. Develop applications using object-oriented programming methods and practices.
4. Design and develop applications for mobile devices such as smart phones and tablets.
5. Prepare a quality assurance plan for testing and evaluation of software.
6. Design and implement computing systems suitable for cloud computing applications.
7. Specify, select, design, build, and troubleshoot micro-processor or micro-controller based systems.

CURRICULUM
General Education consisting of Project Management Skills (theoretical and applied), Communication Skills (oral and written), Mathematics, Physics, Chemistry, Electrotechnology, Engineering Graphics, Technology Awareness and Student Success.

Specific education in various aspects (theory and principles) of the computing engineering discipline including database design, Internet application development, embedded system development, graphical programming, and mobile application development, in addition to digital logic systems, microcontrollers, and IP networking.

Practical education in various aspects of the theory and principles of computing and programming.

Work exposure Laboratory and field experience, gained from compensated work terms, in the application embedded electronics and computing systems.

CAREER OPPORTUNITIES
The graduate from the program will be a technologist who specializes in integrating computing technology into consumer and industrial products, who finds employment with hi-tech companies utilizing computers in new and innovative ways.

Graduates with two years of progressive work experience may be eligible to receive the designation of Professional Technologist (P. Tech) upon completion of a Professional Practice and Ethics Exam.

Note: Students will also be required to complete a number of non-credit co-op education seminars throughout the 3-year program (resume writing, job search skills and interview preparation).

ENTRANCE REQUIREMENTS

Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:

1. High School

High School Graduation Certificate with 60% overall average in the following (or equivalent):

i. English (2 credits) (minimum 60%) from: 3201

ii. Mathematics (4 credits) chosen from:

Advanced: 2200, 3200 (50% minimum in each course)

Academic: 2201 (50% minimum), 3201 (60% minimum)

iii. Science (4 credits) two of which must be selected from:

Biology: 3201

Physics: 3204

Chemistry: 3202

Earth Systems: 3209

Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.

2. Comprehensive Arts and Science (CAS) Transition

Comprehensive Arts and Science (Transition) Certificate with the following courses:

i. Math (60% MINIMUM) MA1040, MA1041

ii. Two Science courses chosen from one of the following three combinations:

a. Introductory Biology: BL1020, BL1021

b. Introductory Chemistry: CH1030, CH1031

c. Introductory Physics: PH1050, PH1051

Note: It is strongly recommended that CAS learners who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.

3. Adult Basic Education (ABE)

Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):

i. English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C

ii. Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C

iii. Science from one of the following sections:

a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C

b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C

Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, are 19 years of age or older, and have been out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Electrical Engineering Technology (Power & Controls) Co-op

DIPLOMA
- **Three Years**
- **September**
- **Ridge Road Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1 and 2 - Refer to Engineering Technology (First Year)				

Semester 3 (Intersession)		Cr	Le	La
ET2100	Electro-technology	3	2	2
AE1240	Electronic Devices	5	4	2
CI1313	Fabrication Techniques/Network Cabling	3	2	3

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4 (Fall)		Cr	Le	La
DR2320	Engineering Graphics for Electrical	2	1	2
MA2100	Mathematics	5	5	0
MP2300	AC Circuits	4	3	3
MP2910	DC Machines	4	3	2
DP1310	Introduction to Programmable Logic Controllers	4	3	3
PE2105	Electrical Practices	2	1	3

Semester 5 (Winter)		Cr	Le	La
MA1670	Statistics	4	4	1
CM2800	Oral/Written Communication Skills	3	3	0
DP2540	Advanced Programmable Logic Controllers	4	3	3
MP2350	Transformers	4	3	3
MP2920	AC Machines	4	3	2
PE2500	Electrical Practices	2	1	3

Semester 6 (Spring)		Cr	Le	La
MP2230	Power System Harmonics	2	2	1
AE2260	Electronic Power Devices and Circuits	5	4	2
MP1700	Control Engineering	2	2	1
PE2501	Electrical Practices	2	1	3

Students in Electrical Engineering Technology (Power & Controls) Co-op completed MP2230, AE2260, MP1700, and PE2501 (6 weeks) prior to beginning their Work Term.

WC1200	Work Term I (minimum 11 weeks)	5	0	0

The Course and Lab hours per week are based on a 15 week semester. The Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 7 (Fall)		Cr	Le	La
PR1415	Capstone Project I (Seminar)	0*	1	0
MP3250	Emergency Standby Systems and Alternate Energy Sources	3	3	0
MP3215	Power Systems: Analysis	4	3	3
MP3110	Motor Control Systems	4	3	3
CI1210	Instrumentation Controls & Automation	3	2	2
PE3101	Electrical Practices (Facility Design)	4	3	2
PR3150	Project Management and Financial Analysis	4	4	0

*The credit hour for PR1415 Capstone Project I (Seminar) is transferred to PR1425 Capstone Project II in Semester 9.

Semester 8 (Winter)	Cr	Le	La
WC1201 Work Term II	5	0	0

Semester 9 (Spring)	Cr	Le	La
PR1425 Capstone Project II	*4	3	0
MP3225 Power Systems: Analysis & Operation	4	3	3
MP3150 Power Devices & Motor Drives	4	3	3
CI3600 Industrial Process Control	4	3	3
PE4110 Electrical Practices (Facility Design)	4	3	3

Electrical Engineering Technology (Power & Controls) Co-op is a three-year cooperative education program providing a comprehensive coverage of the electrical power discipline with emphasis on power systems, control systems and electrical design. The theoretical aspects of this program are complemented by extensive practical components that allow students to gain invaluable experience with installation, operation and maintenance practices. This is further supplemented with real-world experience provided by two work terms.

Graduates completing this program are automatically eligible for membership in the Association of Engineering Technicians and Technologists of Newfoundland and Labrador (AETTNL), as well as any similar association in Canada.

Upon completion of this program graduates may choose to further their education by completing a bachelor degree in technology or engineering at one of several institutions that have articulation agreements with College of the North Atlantic.

Note: This program may not be suitable for applicants who do not have normal colour perception.

ACCREDITATION
This program is accredited by the Canadian Technology Accreditation Board under the mandate of the Canadian Council of Technicians and Technologists.

The academic credentials of graduates of accredited technology programs are recognized internationally by the signatories of the Sydney Accord.

OBJECTIVES
Upon successful completion of the Electrical Engineering Technology (Power & Controls) Co-op program the graduate will be able to:
1. Evaluate, design and specify facility electrical systems such as power, lighting, heating, control and protection.
2. Design and specify electrical generation, transmission and distribution systems.
3. Design, test, analyze and commission industrial electrical power control systems.
4. Coordinate, plan, direct and interface with other electrical industry professionals as part of a technical support team.
5. Analyze, configure and assist in the electrical design of control systems in commercial and industrial applications employing Programmable Logic Controllers (PLC).
6. Design and specify electrical systems found in electrical utilities and industrial plants.
7. Maintain and troubleshoot electrical equipment such as motors, generators, transformers, protection and control devices.
8. Employ the use of power electronic circuits in the electrical design of commercial and industrial systems utilized by the electrical power industry.
9. Apply knowledge of current applicable codes, practices and safety standards.

CURRICULUM
General education consisting of Communication Skills (oral and written), Mathematics, Physics, Chemistry, Electrotechnology, Engineering Graphics and Technology Awareness.

Specific education in various aspects of the electrical power discipline including power systems, analysis, control systems, equipment and techniques and building electrical design.

Practical education in various aspects of the electrical workshop including shop tools, electrical wiring, installation and maintenance of electrical equipment and correct application of the Canadian Electrical Code.

Work exposure consisting of field experience, gained from compensated work terms, in the field of electrical engineering technology.

CAREER OPPORTUNITIES
Graduates of the Electrical Engineering Technology (Power & Controls) Co-op program can find employment with a wide variety of companies involved in the electrical industry. Typical employers include production plants, oil and gas exploration production

companies, refineries, offshore servicing companies, power utilities, pulp and paper mills, electrical sales and service groups, shipyards, provincial and federal government departments and consulting engineering companies.

Graduates with two years of progressive work experience may be eligible to receive the designation of Professional Technologist (P. Tech) upon completion of a Professional Practice and Ethics Exam.

CERTIFICATIONS
In addition to the formal courses listed in the program of studies, students in the Electrical Engineering Technology (Power & Controls) Co-op program are required to obtain a certificate of completion of Standard First Aid/Heart Start, and Arc Flash Awareness Training prior to the start of Work Term I.

*Students should be aware that additional fees may apply to external certifications.

ENTRANCE REQUIREMENTS
Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:

1. High School
High School Graduation Certificate with 60% overall average in the following (or equivalent):
i. English (2 credits) (minimum 60%) from: 3201
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Science (4 credits) two of which must be selected from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math (60% MINIMUM) MA1040, MA1041
ii. Two Science courses chosen from one of the following three combinations:
a. Introductory Biology: BL1020, BL1021
b. Introductory Chemistry: CH1030, CH1031
c. Introductory Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i. English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii. Science from one of the following sections:
a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Electronic Systems Engineering Technology (Co-op)

DIPLOMA
- **Two Years**
- **September**
- **Corner Brook Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1 (Fall)		**Cr**	**Le**	**La**
PH1140	Applied Physics	4	3	2
ET1140	AC/DC Fundamentals	9	8	4
MA1101	Mathematics	5	5	0
CM1460	Writing for the Workplace	2	2	0
CI1321	Electrical/Electronic Fabrication Techniques	3	2	3
Semester 2 (Winter)		**Cr**	**Le**	**La**
AE2360	Analog Electronics I	6	5	2
DP1110	Digital Systems I (Logic)	4	3	2
CR1107	Network Fundamentals	4	3	3
CT2300	Applied Programming	4	3	2
CI1110	Signals & Measurements	3	2	2
MC1850	Spreadsheet Applications	1	0	3

CERTIFICATIONS

In addition to the formal courses listed in the program of studies, students in the Electronic Systems Engineering Technology (Co-op) program are required to obtain the following certificates of completion prior to WC1310 Co-op Work Term, Semester 3:
- Standard First Aid/Heart Start
- Workplace Hazardous Materials and Information Systems (WHMIS)
- Power Line Hazards Awareness
- Confined Space
- Fall Protection

*Students should be aware that additional fees may apply to external certifications.

Semester 3 (Spring)		**Cr**	**Le**	**La**
CE3430	Network Cabling	4	3	3

Students in Electronic Systems Engineering Technology (Co-op) complete CE3430 (3 weeks) prior to beginning their Work Term.

WC1310	Co-op Work Term	5	0	0
Semester 4 (Fall)		**Cr**	**Le**	**La**
EG2120	Applied Engineering Drafting	2	1	2
PR3150	Project Management and Financial Analysis	4	4	0
CM2800	Oral/Written Communication Skills	3	3	0
AE2365	Analog Electronics II	5	4	2
DP2110	Digital Systems II (Interfacing)	5	4	3
CE2730	RF Transmission & Antennas	4	3	2
PR2790	Capstone Project I (Seminar)	0	1	0
Semester 5 (Winter)		**Cr**	**Le**	**La**
MA2100	Mathematics	5	5	0
AE3300	Industrial Electronics & PLCs	4	3	2
DP3200	Embedded Controller Applications	4	3	2
CP2000	Embedded Linux	3	2	2
CE2280	Modulation and Encoding	5	4	2
PR2791	Capstone Project II	4	3	0
Semester 6 (Intersession)		**Cr**	**Le**	**La**
AE3301	Process Control	5	4	2
CE3110	Wireless Communications Systems	5	4	3
MA1530	Statistics	2	2	1

The Course and Lab hours per week are based on a 15-week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

The Electronic Systems Engineering Technology (Co-op) program focuses on planning, designing, commissioning, servicing, troubleshooting, and decommissioning electronic systems. This general program enables graduates the opportunity to seek careers in a wide variety of technology areas, including electronic communications systems, computer network systems, industrial control systems, and surveillance and navigation systems.

The program is designed to provide graduates with the skills and knowledge required to implement and work with modern communication systems using digital and fiber optics principles, embedded microcontrollers, applications including robotic controls, artificial intelligence, wireless control and industrial instrumentation & controls. Thanks to the widespread proliferation of sophisticated systems around the world, the demand for well-qualified electronics technologists is, and will be, high for years to come.

Graduates of this accredited program automatically satisfy the academic requirements for membership in the Association of Engineering Technicians and Technologists of Newfoundland and Labrador (AETTNL), and qualify for certification with the appropriate work experience and references. Students enrolled in this program are eligible for full student membership after the first year. Certification credentials are transferrable across provincial associations.

Upon completion of this program, graduates may choose to further their education by completing a bachelor degree in technology or engineering at one of several institutions that have articulation agreements with College of the North Atlantic.

ACCREDITATION
This program is currently accredited by the Canadian Technology Accreditation Board (CTAB), which was acquired by Technology Accreditation Canada (TAC) in November 2019. TAC operates under the mandate of the Canadian Council of Technicians and Technologists, and is now the only national accreditation body for Engineering Technician and Technologist Programs.

The academic credentials of graduates of both CTAB- and TAC- accredited engineering technology programs are currently recognized internationally by the signatories of the Sydney Accord.

Note: This program may not be suitable for applicants who do not have normal colour perception.

OBJECTIVES
As an Electronic Systems Engineering Technologist, the graduate will have the knowledge and skill that will allow him/her to:

1. Demonstrate a high level of skill in the application of electronics principles.
2. Produce electrical and electronics drawings, layouts and reports.
3. Apply the skills and techniques to troubleshoot logic and digital circuits, and embedded microprocessor-based and microcontroller-based systems, including assembly and high-level language programs.
4. Design, assemble, maintain, and troubleshoot analog and digital communication systems.
5. Install, analyze and maintain industrial instrumentation and process control equipment.
6. Apply appropriate troubleshooting techniques to electronic circuits or systems, and generate and perform test procedures.
7. Determine, select, recommend and justify the purchase of electronic equipment, components and systems.
8. Modify, maintain, repair and recommend electronic equipment and systems.
9. Design, build, test and troubleshoot electronic circuits, equipment, systems and subsystems.
10. Analyze and troubleshoot computer networks.
11. Apply current industry practices of project management and business principles.

CURRICULUM
General education consisting of Project Management Skills (theoretical and applied), Communication Skills (oral and written), Mathematics, Physics, Electrical and Magnetic Theory, Engineering Graphics, Engineering Technology Awareness.

Specific education in various aspects (theory and principles) of the Electronic Systems Engineering Technology profession including the theory and application of analog and digital electronics with specialized emphasis on Analog and Digital Communication Systems, Computer Programming, Microprocessor Interfacing Systems, Industrial Process Control Systems, and Networking.

Practical education employing labs and shops focused on installation, configuration, operation and maintenance training associated with digital communications, wireless communications systems, microcontrollers, computer networks, cabling systems, and industrial process control systems.

CAREER OPPORTUNITIES

Job prospects for the electronics industry are expected to be strong in the foreseeable future. The Electronics Systems Engineering Technology program is designed to produce a well-rounded graduate who will be capable of working in a variety of electronic related fields. Graduates of the program will find rewarding employment in both the service and support side of the electronics industry as well as the consumer side. They will obtain employment in the areas of telecommunications, manufacturing sales, service, and support, computer sales, service and support, provincial and federal agencies, consulting firms, business equipment sales and service, industrial sales and service, aircraft surveillance and navigation, R&D and utility companies.

Graduates with two years of progressive work experience may be eligible to receive the designation of Professional Technologist (P. Tech) upon completion of a Professional Practice and Ethics Exam.

Note: Students will be required to complete one-day non-credit educational seminars throughout the program in: Program Solving and Decision Making, Environmental Citizenship and Ethics, and Technology Awareness.

ENTRANCE REQUIREMENTS

Eligibility for admission to Electronic Systems Engineering Technology (Co-op) program requires the applicant to meet one of the following four academic criteria:

1. High School

High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i.   English (2 credits) (minimum 60%) from: 3201
ii.   Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (70% minimum), 3201 (70% minimum)
iii.   Science (4 credits) two of which must be selected from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.

2. Comprehensive Arts and Science (CAS) Transition

Comprehensive Arts and Science (Transition) Certificate with the following courses:
i.   Math (70% minimum) MA1040, MA1041
ii.   Two Science courses chosen from one of the following three combinations:
a.   Introductory Biology: BL1020, BL1021
b.   Introductory Chemistry: CH1030, CH1031
c.   Introductory Physics: PH1050, PH1051
Note: It is strongly recommended that CAS learners who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.

3. Adult Basic Education (ABE)

Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i.   English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii.   Mathematics (70% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii.   Science from one of the following sections:
a.   Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b.   Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c.   Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Electronics Engineering Technology (Biomedical)

DIPLOMA

- **Three Years**
- **September**
- **Ridge Road Campus**

COURSES

CODE   TITLE   Hrs/wk

Semester 1 and 2 - Refer to Engineering Technology (First Year)

Semester 3 (Intersession)	Cr	Le	La
CI1110 Signals & Measurements	3	2	2
CI1313 Fabrication Techniques/Network Cabling	3	2	3
CT2300 Applied Programming	4	3	2

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4 (Fall)	Cr	Le	La
AE2330 Analog Electronics I	6	5	2
CG1205 Health Care and Safety	3	2	2
DP1110 Digital Systems I (Logic)	4	3	2
MA2100 Mathematics	5	5	0
MP2140 Circuit Analysis I	4	3	2
CM2800 Oral/Written Communication Skills	3	3	0

Semester 5 (Winter)	Cr	Le	La
AE2331 Analog Electronics II	4	3	2
CR1107 Network Fundamentals	4	3	3
CE2280 Modulation and Encoding	5	4	2
DP2120 Digital Systems II (Interfacing)	5	4	3
ET2150 Advanced Circuit Analysis	5	5	0

Semester 6 (Intersession)	Cr	Le	La
BL1300 Anatomy & Physiology	3	3	0
CI1221 BET Electromechanical Systems	3	2	3
MA1530 Statistics	2	2	1

Semester 7 (Fall)	Cr	Le	La
AE3130 Active Circuit Applications	4	3	2
CI3400 Biomedical Instrumentation I	5	4	4
CR2402 Switching, Routing & Wireless	4	3	3
DP3200 Embedded Controller Applications	4	3	2
PR2830 Capstone Project I (Seminar)	*P/F	1	0
PR3150 Project Management and Financial Analysis	4	4	0

The credit hour from PR2830 Capstone Project I (Seminar) in Semester 7 is allotted to PR2831 Capstone Project II in Semester 8.

Semester 8 (Winter)	Cr	Le	La
TM1111 Medical Terminology	2	2	0
CR2903 Enterprise Network Security & Automation	4	3	3
CP2000 Embedded Linux	3	2	2
CI3412 Biomedical Instrumentation II	4	3	4
CI3510 Advanced Medical Systems	4	3	4
PR2831 Capstone Project II	*4	3	0

Semester 9 (Intersession)	Cr	Le	La
WT1700 Biomedical Practicum (7 weeks)	P/F		

Note: The final semester of year 3 is a 7 week practicum. As well, in the third year of the program, there are regular site visits to health care facilities. While the requirements for all Health Boards are not the same, it is standard practice for any government position to provide a letter of conduct from local law enforcement (typically RNC or RCMP). Due to the nature of any work in Health care and its inherent risk, it is also required that health vaccination records be updated and any outstanding vaccinations be received prior to commencement of the practicum. As well any allergies or sensitivities should be identified at this time. These requirements are initiated and need to be completed during semester 8 (winter semester, year 3)

A letter of conduct will also be required for registration in some courses in semesters 7 and 8.

Health care environments have become more dependent on electronic medical diagnostic and therapeutic equipment that must be operated and maintained with great accuracy. Graduates of this program are part of an integrated health care team who install and maintain this equipment as well as their supporting computer systems. Graduates also assist other health care professionals in the optimization of equipment usage. The coordinated use and maintenance of this equipment must be completed in accordance with applicable codes, statutes and associated regulations.

The Electronics Engineering Technology (Biomedical) program is a biomedical engineering technology program with a strong foundation in electronics. Students enrolled in this program also receive training in the areas of biomedical instrumentation, microprocessor applications in the health care setting, anatomy and physiology, chemistry, biochemistry, health care and safety. This comprehensive program concludes with a practicum where students are provided with the opportunity to work in hospital-based biomedical departments or with medical equipment sales and service companies.

Note: This program may not be suitable for applicants who do not have normal colour perception.

ACCREDITATION
This program is currently accredited by the Canadian Technology Accreditation Board (CTAB), which was acquired by Technology Accreditation Canada (TAC) in November 2019. TAC operates under the mandate of the Canadian Council of Technicians and Technologists, and is now the only national accreditation body for Engineering Technician and Technologistst Programs. The academic credentials of graduates of both CTAB and TAC accredited technology programs are recognized internally by the signatories of the Sydney Accord.

OBJECTIVES
As engineering technologists, graduates of this program will have the knowledge and skill that will allow him/her to:

1. Employ specialized biomedical test instrumentation including patient parameter simulators and analyzers, pressure and flow measurement devices, electrosurgical analyzers and electrical safety analyzers.
2. Troubleshoot, maintain, and calibrate complex, electro-medical equipment utilizing industry recognized techniques and protocols.
3. Demonstrate proficiency in the safe operation of electro-medical devices including patient care monitoring systems, defibrillators, electro-surgery units, diagnostic medical imaging systems, clinical laboratory instrumentation, dialysis delivery systems, respiratory care devices and other diagnostic, therapeutic and patient care instruments.
4. Modify, design, and construct medical electronic devices through the application of electronic and patient data-acquisition principles.
5. Apply an engineering approach to problem solving with respect to medical equipment systems, to enable the graduate to readily upgrade their knowledge and skills.
6. Demonstrate an awareness of and concern for patient and staff safety in the health care environment.
7. Maintain and operate Linux-based instrumentation within a wireless networking environment.

CURRICULUM
General education consisting of Communication Skills (oral and written), Mathematics, Physics, Chemistry, Electrotechnology, Engineering Graphics, Technology Awareness and Student Success.

Specific education in the theory and application of analog and digital electronics with a specialized emphasis on biomedical instruments, equipment and techniques and the interconnected computer systems associated with a modern healthcare environment.

Practical education in a Health Care environment through curriculum integrated labs.

Work exposure consisting of field experience, gained from the biomedical practicum.

CAREER OPPORTUNITIES
The graduates of this program may enter the work force in the employment of hospital biomedical engineering departments, with manufacturers and distributors of biomedical instrumentation, as well as independent sales and service organizations.

Employment may include design and development of medical instrumentation, as well as purchase evaluation, acceptance testing, preventive and demand maintenance and operator training.

Graduates with two years of progressive work experience may be eligible to receive the designation of Professional Technologist (P. Tech) upon completion of a Professional Practice and Ethics Exam.

Upon recognition as a P.Tech and supplemental relevant experience in the field of biomedical engineering technology the graduate may be eligible to write certification examinations to be recognized as a Certified Biomedical Engineering Technologist (CBET). In many jurisdictions of Canada this certification is a requirement for advanced practice of the profession.

CERTIFICATIONS
In addition to the formal courses listed in the program of studies, students in the Electronics Engineering Technology (Biomedical) program are required to obtain a certificate of completion of Standard First Aid/Heart Start and WHMIS over their three-year period of studies.
*Students should be aware that additional fees may apply to external certifications.

ENTRANCE REQUIREMENTS
Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:

1. High School
High School Graduation Certificate with 60% overall average in the following (or equivalent):
i. English (2 credits) (minimum 60%) from: 3201
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Science (4 credits) two of which must be selected from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math (60% MINIMUM) MA1040, MA1041
ii. Two Science courses chosen from one of the following three combinations:
     a. Introductory Biology: BL1020, BL1021
     b. Introductory Chemistry: CH1030, CH1031
     c. Introductory Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i. English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii. Science from one of the following sections:
     a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
     b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
     c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
 If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Engineering Technology (First Year)
DIPLOMA
• **Two Semesters**
• **September**
• **Burin, Carbonear, Corner Brook, Gander, and Ridge Road Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1 (Fall)		**Cr**	**Le**	**La**
CM1400	Technical Report Writing I	3	3	0
ET1100	Electro-technology	4	3	2
MA1700	Mathematics*	4	3	2
PH1100	Physics	4	3	2
EG1110	Engineering Graphics	3	2	2
CH1120	Chemistry	4	3	2
SD1170	Technology Awareness I	P/NP	1	0

*Admission into the appropriate Mathematics course will be decided by the grade in high school math.
Students who received a combined average of 70% in high school Academic Mathematics 2201 and 3201, or a pass in both high school Advanced Mathematics 2200 and 3200 can be exempted from MA1700 Mathematics. Students must apply for the exemption.

Note: Students may apply for an exemption from MA1700 provided they meet the appropriate high school level in Mathematics as noted above.

Semester 2 (Winter)		**Cr**	**Le**	**La**
CH1121	Chemistry	4	3	2
PH1101	Physics	4	3	2
MA1101	Mathematics*	5	5	0
ET1101	Electrotechnology	4	3	2
CM1401	Technical Report Writing II	3	3	0
EG1430	AutoCAD Essentials	3	2	2
SD1171	Technology Awareness II	2	1	0

SELECTION PROCESS
The college offers a common first year in the Engineering Technology. This allows students to complete the first two semesters of the engineering technology program that they have been accepted to at one of four CNA campuses that offer first year engineering technology. After completing the first two semesters, students must enter the campus which offers the program of their choice to complete the seven week Intersession (May, June), and the subsequent years of their program.

Individuals must submit their application to the campus where they intend to complete the first two semesters of their program. This begins a first come, first served provincial process which reserves a seat at the designated campus for the appropriate Intersession, and subsequent years of program study.

After successful completion of the first two semesters students progress to the Intersession in the program for which a seat has already been reserved. Any student who, after registration, wishes to change his/her original program choice MUST apply for a Program Transfer (see below).

CERTIFICATIONS
In addition to the formal semester courses listed in the program of studies, students may be required to obtain a certificate of completion of Standard First Aid/Heart Start over their three-year period of studies.

*Students should be aware that additional fees may apply to external certifications.

TRANSFER PROCESS
If a student wishes to change his/her original program choice, he/she MUST request a program transfer and complete the appropriate form (Request to Transfer Form) which is available through the Registrar's Office.

Applicants cannot request a change in program prior to entry into the first year. A request to transfer does not guarantee entry into one's alternate, "new" program choice. Program transfer will be granted only if sufficient space is available. The following conditions apply:

1. The Request to Transfer Form must be received at the Registrar's Office by the second Friday of February.
2. Transfers are granted based on 1) space availability and 2) the student's weighted average at the end of semester one. In cases where the student has been exempted from courses in the first semester, the mark(s) obtained by the student at another postsecondary institution or high school will be used in calculating the weighted average.

ENTRANCE REQUIREMENTS
Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:

1. High School
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English (2 credits) (minimum 60%) from: 3201 or 3202
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
Note: Students who received a combined average of 70% in high school Academic Mathematics 2201 and 3201, or a pass in both high school
Advanced Mathematics 2200 and 3200 can be exempted from Math 1700. Students must apply for the exemption.
iii. Science (4 credits) two of which must be selected from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math (60% MINIMUM) MA1040, MA1041
ii. Two Science courses chosen from one of the following three combinations:
a. Introductory Biology: BL1020, BL1021
b. Introductory Chemistry: CH1030, CH1031
c. Introductory Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i. English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii. Science from one of the following sections:
a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

TRANSFERABILITY

Currently there are a number of agreements in place with other colleges and universities where students can obtain advanced standing into Engineering and Bachelor of Engineering Technology Programs.

- Memorial University – Bachelor of Technology
- Lakehead University – Bachelor of Engineering
- Cape Breton University – Bachelor of Engineering Technology
- Athabasca University – Bachelor of Science (Post Diploma)
- Camosun College - Engineering Bridge Programs for:
    - University of Victoria - Bachelor of Engineering
    - University of British Colombia – Bachelor of Engineering
- College of the North Atlantic – Other engineering technology programs (on a course by course basis). Every effort has been made to ensure that the maximum numbers of transfer credits are attainable by articulating new and revised courses for common curriculum areas.

Environmental Engineering Technology (Co-op)

DIPLOMA
- **Two Years**
- **September**
- **Corner Brook Campus**
- **Alternate Year Intake**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
BL1100	Biology	4	3	2
CM1460	Writing for the Workplace	2	2	0
MA1100	Mathematics	5	4	2
EN1210	Geomatics I	1	0	2
CH1120	Chemistry	4	3	2
EN1520	Environmental Sampling Techniques	3	2	2
EN1110	Soil Fundamentals	4	3	2
Semester 2		**Cr**	**Le**	**La**
MA1140	Applied Mathematics	5	4	2
EN2300	Environmental Law	3	3	0
CH1121	Chemistry	4	3	2
EN2321	Occupational Health & Safety	3	2	2
CM2800	Oral/Written Communication Skills	3	3	0
EN3200	Environmental Impact Assessment	3	3	0
MC1850	Spreadsheet Applications	1	0	2
Semester 3		**Cr**	**Le**	**La**
WC1520	Co-op Work Term	5	5	0
Semester 4		**Cr**	**Le**	**La**
CH2715	Analytical Chemistry	4	3	3
EY2110	Ecology	4	3	2
EN1220	Industrial Hygiene	4	3	2
MA1670	Statistics	4	4	1
EN2410	Environmental Sustainability	2	2	0
EN3111	Environmental Engineering I	4	3	2
PR1410	Capstone Project I (Seminar	*P/F	1	0

*The credit hour from PR1410 Capstone Project I (Seminar) in Semester 4 is allotted to PR1420 Capstone Project II in Semester 6.

Semester 5		**Cr**	**Le**	**La**
EN1230	Geomatics II (GIS)	3	2	3
EN1600	Environmental Assessment I	3	2	3
EN3120	Environmental Engineering II	4	3	2
EN1531	Water Quality	4	3	2
EN3300	Environmental Auditing	4	3	2
PR3150	Project Management and Financial Analysis	4	4	0
Semester 6 Intersession		**Cr**	**Le**	**La**
EN2545	Water and Waste Water Treatment	4	3	2
EN1601	Environmental Assessment II	4	3	2
PR1420	Capstone Project II	*4	3	0

The Course and Lab hours per week are based on a 15-week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

The Environmental Industry is one of the fastest growing sectors of the economy. The industry needs a supply of skilled technical people to meet the challenges of the 21st century by reducing environmental pollution and maintaining the well-being of ecosystems. Students of the Environmental Engineering Technology program will receive multidisciplinary training in chemical, biological, and soil science and apply these skills using engineering principles for the protection and improvement of public health and the environment, including air, water, land resources, and sustainable development.

Environmental Engineering Technology graduates have advanced skills in the use of environmental sampling, monitoring & testing, data analysis, and information technology tools. They have the ability to manage environmental projects from planning through to implementation and the maintenance phase. They have applied knowledge of health, safety and environmental requirements and can contribute to risk assessment and environmental systems management.

Environmental Engineering Technologists are involved in water treatment, water and air pollution control, recycling, waste disposal, and public health issues. They are concerned with land protection and reclamation, industrial & hazardous waste containment and treatment, and municipal solid waste management, including the recycling of materials and energy recovery. They conduct hazardous-waste management studies, and help develop regulations for environmental protection. They conduct research on the environmental impact of proposed infrastructure and resource development projects, analyze scientific data, and perform quality-control checks. Many Environmental Engineering Technologists work as consultants, helping their clients to comply with regulations and to clean up hazardous sites.

The college offers a two year Co-operative education diploma program in Environmental Engineering Technology. The co-operative education component affords graduates the opportunity to combine practical work experience with academic learning.

Upon completion of this program graduates may choose to further their education by completing a bachelor degree in technology or engineering at one of several institutions that have articulation agreements with College of the North Atlantic. Graduates completing this program are automatically eligible for membership in the Association of Engineering Technicians and Technologists of Newfoundland and Labrador and Labrador (AETTNL), as well as any similar association in Canada.

ACCREDITATION
College of the North Atlantic will seek accreditation for this program from Technology Accreditation Canada.

OBJECTIVES
As an Environmental Engineering Technologist, the graduate will have the knowledge and skill that will allow him/her to:

1. Perform and interpret environmental procedures for air and water pollution control, and hazardous waste management.
2. Apply basic principles of science and engineering to environmental processes.
3. Select, evaluate, operate, calibrate, test, troubleshoot and maintain instrumentation common to the discipline.
4. Plan, design and implement environmental impact, assessment and remediation programs.
5. Demonstrate the methods of recognition, evaluation and control of hazards to people, facilities, equipment and the environment.
6. Collect representative environmental samples, perform routine and specialized tests and interpret results, using current and relevant tools.
7. Carry out work responsibilities adhering to the standards of professional conduct and principles of professional ethics.
8. Contribute to the development, implementation and maintenance of environmental management systems.
9. Apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined environmental engineering technology activities.
10. Establish and maintain a safe work environment by following and enforcing environmental and safety standards and adhering to established legislation, practices, and procedures.

CURRICULUM
General education consisting of Project Management Skills (theoretical and applied), Communication Skills (oral and written), Mathematics, Chemistry, Biology, Soils, Environmental Law, Environmental Sustainability and Occupational Health and Safety.

Specific education in various aspects (theory and principles) of the Environmental Engineering discipline including Environmental Sampling, Industrial Hygiene, Air and Water Pollution Control, Environmental Engineering, Geographic Information Systems (GIS), Environmental Processes and Auditing, and Environmental Impact, Assessment and Remediation.

Practical education in various aspects of Environmental Engineering applications including Health Safety and Environmental (HSE) Audits, Environmental Sampling, Environmental Analysis and Environmental Assessment procedures.

Work exposure consisting of field experience, gained from a compensated work terms, in the field of HSE and Environmental Engineering.

Graduates are able to enter the work force as highly skilled employees with the capability to manage environmental and municipal infrastructure projects and to analyze and remediate urban environments.

CAREER OPPORTUNITIES
Graduates are prepared to take a proactive approach to all aspect of Environmental Engineering Technology and Occupational Health and Safety management. They may find employment in a wide range of environmental careers, such as:

Environmental Consultants, Watershed Specialists, Environmental Engineering Technologists, Environmental Protection Officers, Groundwater Specialists, Industrial and Municipal Water/Wastewater Plant Operators, Landfill Site Technologist, Water Quality Specialists, Environmental Basement Supervisor, Environmental Auditor, Industrial Hygienist, HSE advisor, Safety Coordinators, and Occupational Health and Safety Officers. Potential employment opportunities include health care, construction, waste management, oil and gas, pulp and paper, mining, manufacturing, government, and engineering consulting firms.

PROGRAM TRANSFERABILITY
Graduates of the Environmental Engineering Technology (Co-op) program who wish to pursue additional post-secondary studies can apply for entry with advanced standing at a number of Canadian Universities that the College has established credit transfer agreements with. Please refer to the Department of Advanced Education and Skills transfer guide, or contact your intended university or college.

Transfer Agreements:
- University of New Brunswick - Fredericton, NB

CERTIFICATIONS
In addition to the formal courses listed in the program of studies, students in the Environmental Engineering Technology (Co-op) program are required to obtain the following certificates of completion prior to the work term in Semester 6:
- Standard First Aid/Heart Start
- Workplace Hazardous Materials and Information Systems (WHMIS)
- Transportation of Dangerous Goods (TDG)
- Powerline Hazards Awareness
- OHS/Back Injury Prevention
- Pleasure Craft Operator

*Students should be aware that additional fees may apply to external certifications.

Students will also be required to complete a number of non-credit co-op education seminars throughout the first year of the program to prepare for their co-op work placement.

ENTRANCE REQUIREMENTS
Eligibility for admission to the Environmental Engineering Technology (Co-op) program requires the applicant to meet one of the following four academic criteria:

1. High School
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i.   English (2 credits) (minimum 60%) from: 3201
ii.   Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii.   Science (4 credits) two of which must be chosen from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i.   Math MA1040, MA1041
ii.   Two Science courses chosen from one of the following three combinations:
a.   Introductory Biology: BL1020, BL1021
b.   Introductory Chemistry: CH1030, CH1031
c.   Introductory Physics: PH1050, PH1051
Note: It is recommended that CAS learners who intend to enroll in the Environmental Engineering Technology (Co-op) Diploma program complete both of the Introductory Chemistry courses and both of the Introductory Biology courses.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i.   English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii.   Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii.   Science from one of the following sections:
a.   Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b.   Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c.   Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C

Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4.   Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

SPECIAL REQUIREMENTS

Because of the extensive field and laboratory exposure incorporated into this program, students will be required to obtain specialized clothing and equipment that includes a lab coat, safety glasses, graphics calculator, compass, CSA Safety Boots, CSA hardhat, rain gear, and other clothing appropriate for outdoor work.

Environmental Engineering Technology - Advanced Diploma

ADVANCED DIPLOMA

- **One Year**
- **September**
- **Corner Brook Campus**
- **Alternate Year Intake**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1 Intersession		**Cr**	**Le**	**La**
EN1520	Environmental Sampling Techniques	3	2	2
EN2300	Environmental Law	3	3	0
EN2321	Occupational Health & Safety	3	2	2
EN3200	Environmental Impact Assessment	3	3	0

Semester 2 Fall		**Cr**	**Le**	**La**
CH2715	Analytical Chemistry	4	3	3
EY2110	Ecology	4	3	2
EN1220	Industrial Hygiene	4	3	2
EN1110	Soil Fundamentals	4	3	2
EN1210	Geomatics I (Practical)	1	0	2
EN3111	Environmental Engineering I	4	3	2
PR1410	Capstone Project I (Seminar)	*P/F	1	0

*The credit hour from PR1410 Capstone Project I (Seminar) in Semester 2 is allotted to PR1420 Capstone Project II in Semester 4.

Semester 3 Winter		**Cr**	**Le**	**La**
EN1230	Geomatics II (GIS)	3	2	3
EN1600	Environmental Assessment	3	2	3
EN3120	Environmental Engineering II	4	3	2
EN1531	Water Quality	4	3	2
EN3300	Environmental Auditing	4	3	2
PR3150	Project Management & Financial Analysis440			

Semester 4 Intersession		**Cr**	**Le**	**La**
EN2545	Water and Waste Water Treatment	4	3	2
EN1601	Environmental Site Assessment II	4	3	2
PR1420	Capstone Project II	*4	3	0

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length.

The Environmental Engineering Technology - Advanced Diploma program recognizes the wide range of science and engineering backgrounds associated with this industry and is structured to accommodate the needs of a diverse range of applicants. The combination of common core topics, management courses, specialty courses, industry-sponsored project and liberal studies courses provides a unique balance of skill sets that prepares candidates for a broad range of career opportunities. While many participants pursue this advanced diploma for the credential, others are seeking professional development to complement their existing professional and university credentials.

This accelerated program allows students who already have a university degree or college diploma to obtain the Environmental Engineering Technology – Advanced Diploma in one year.

The Environmental Engineering Technology - Advanced Diploma program is intended to provide the additional skills and knowledge that engineering and science graduates require to successfully work on environmental assignments such as contaminated sites, water treatment facilities, sustainability management, contaminant hydrogeology, integrated solid waste management, environmental impact assessment, air quality, climate change, resource management, green energy technology projects and health safety and environmental compliance. Environmental engineering technologists are on the front lines of environmental protection. They apply science, ecology and engineering to minimize the adverse impacts of human activity on the natural world. Graduates will have the skills to work in pollution monitoring, environmental audits, environmental management, site assessment and remediation, project management and waste management.

ACCREDITATION
College of the North Atlantic will seek accreditation for this program from Technology Accreditation Canada (TAC) under the mandate of the Canadian Council of Technicians and Technologists.

The college will also seek recognition for graduates including:

1. CCEP (Canadian Certified Environmental Practitioner) and CEPIT (Canadian Environmental Practitioner-in-training) through ECO Canada (Environmental Careers Organization).
2. Certified Environmental Site Assessor (C.E.S.A.) with the Association of Environmental Site Assessors of Canada (AESAC).

Students may also have the opportunity to obtain the certification as a Canadian Registered Safety Professional (CRSP) upon further studies.

OBJECTIVES
Graduates of the Environmental Engineering Technology- Advanced Diploma program, will have the knowledge and skills that will allow him/her to:

1. Perform and interpret environmental procedures for air and water pollution control, and hazardous waste management.
2. Apply basic principles of science and engineering to environmental processes.
3. Select, evaluate, operate, calibrate, test, troubleshoot and maintain instrumentation and analytical equipment common to the discipline.
4. Plan, design and implement environmental impact, assessment and remediation programs.
5. Understand the methods of recognition, evaluation and control of hazards to people, facilities, equipment and the environment.
6. Collect representative environmental samples, perform routine and specialized tests and interpret results, using current and relevant tools
7. Carry out work responsibilities adhering to the standards of professional conduct and principles of professional ethics.
8. Contribute to the development, implementation and maintenance of environmental management systems.
9. An ability to select and apply the knowledge, techniques, skills, and modern tools of the discipline to broadly-defined environmental engineering technology activities.
10. Establish and maintain a safe work environment by following and enforcing environmental and safety standards and adhering to established legislation, practices, and procedures.

CURRICULUM
General education consisting of Project Management Skills (theoretical and applied), Communication Skills (oral and written), Mathematics, Chemistry, Biology, Soils, Environmental Law, Environmental Sustainability and Occupational Health and Safety.

Specific education in various aspects (theory and principles) of the Environmental Engineering discipline including Environmental Sampling, Industrial Hygiene, Air and Water Pollution Control, Environmental Engineering, Geographic Information Systems (GIS), Environmental Processes and Auditing, and Environmental Impact, Assessment and Remediation .

Practical education in various aspects of Environmental Engineering applications including Health Safety and Environmental(HSE) Audits, Environmental Sampling, Environmental Analysis and Environmental Assessment procedures.

Graduates are able to enter the work force as highly skilled employees with the capability to manage environmental and municipal infrastructure projects and to analyze and remediate urban environments.

CAREER OPPORTUNITIES
Graduates are prepared to take a proactive approach to all aspect of Environmental Engineering Technology and occupational health and safety management. They may find employment in a wide range of environmental careers, such as:
Environmental Consultants, Watershed Specialists, Environmental Engineering Technologists, Environmental Protection Officers, Groundwater Specialists, Industrial and Municipal Water/Wastewater Plant Operators, Landfill Site Technologist, Water Quality

Specialists, Environmental Assessment Supervisor, Environmental Auditor, Industrial Hygienist, HSE Advisor, Safety Coordinators, and Occupational Health and Safety Officers. Potential employment opportunities include health care, construction, waste management, oil and gas, pulp and paper, mining, manufacturing, government, and engineering consulting firms.

PROGRAM TRANSFERABILITY
Graduates of the Environmental Engineering Technology Advanced Diploma program who wish to pursue additional post-secondary studies can apply for entry with advanced standing at a number of Canadian Universities that the College has established credit transfer agreements with. Please refer to the Department of Advanced Education and Skills transfer guide, or contact your intended university or college.

Transfer Agreements:
- University of New Brunswick - Fredericton, NB

CERTIFICATIONS
In addition to the formal courses listed in the program of studies, learners in the Environmental Engineering Technology Advanced Diploma program are required to obtain a certificate of completion of Standard First Aid & CPR/AED, Workplace Hazardous Materials and Information Systems (WHMIS), Transportation of Dangerous Goods (TDG), Powerline Hazards Awareness, Back Injury Prevention, and Pleasure Craft Operator upon graduation.

Note: Students should be aware that additional fees and expenses apply for some of the certifications, field trips, and tours throughout the program.

ENTRANCE REQUIREMENTS
Eligibility for admission to the Environmental Engineering Technology – Advanced Diploma program requires the applicant to have a university degree in science courses to include Calculus, Statistics, Chemistry and Biology from an institution recognized by the College of the North Atlantic (OR a combination of other post-secondary and industry experience acceptable to the college as an entrance requirement).

SPECIAL REQUIREMENTS
Because of the extensive field and laboratory exposure incorporated into this program, students will be required to obtain specialized clothing and equipment that includes a lab coat, safety glasses, graphics calculator, compass, CSA Safety Boots, CSA hard hat, rain gear, and other clothing appropriate for outdoor work.

Geomatics/Surveying Engineering Technology (Co-op)

DIPLOMA
- **Three Years**
- **September**
- **Ridge Road Campus**

COURSES
CODE   TITLE   Hrs/wk
Semester 1 and 2 - Refer to Engineering Technology (First Year)

Semester 3 (Intersession)	**Cr**	**Le**	**La**
SU1320 Plane Surveying I	4	3	4
EN1120 Environmental Management	3	2	2
SU1500 Cartography	3	2	2

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4 (Fall)	**Cr**	**Le**	**La**
FT1240 Surveying Field Camp	1	0	0
CM2800 Oral/Written Communication Skills	3	3	0
SU1321 Plane Surveying II	7	4	8
MA2100 Mathematics	5	5	0
SU1360 Graphics for Geomatics Engineering Technology	3	2	2
SU2500 Photogrammetry	4	3	2

Semester 5 (Winter)	**Cr**	**Le**	**La**
MA2180 Applied Geomatics Mathematics	4	4	1
SU1450 Geographic Information Systems (GIS) I	3	2	3
SU1540 Hydrography I	4	3	3
SU2330 Geodesy & Geodetic Positioning I	4	3	3
SU2540 Cadastral Surveying I	3	2	2
CP1640 Visual Basic Applications for ACAD	2	1	2

Semester 6 (Spring)	**Cr**	**Le**	**La**
WC1300 Work Term I	5	0	0

Semester 7 (Fall)	**Cr**	**Le**	**La**
CA2900 Municipal Engineering	3	2	2
SU1460 Geographic Information Systems (GIS) II	3	2	3
SU2570 GNSS and Spatial Referencing	4	3	3
SU3500 Adjustments	4	3	3
PR2890 Capstone Project I (Seminar)	0	1	0
MA3130 Advanced Geomatics Mathematics	3	3	0
GE1240 Geology for Geomatics/Surveying ET	3	2	2

Semester 8 (Winter)	**Cr**	**Le**	**La**
WC1301 Work Term II	5	0	0

Semester 9 (Spring)	**Cr**	**Le**	**La**
FT1260 Multidisciplinary Field Camp	1	0	0
PR3150 Project Management and Financial Analysis	4	4	0
PR2891 Capstone Project II	4	3	0
SU1570 Remote Sensing	3	2	2
SU3300 Geodesy & Geodetic Positioning II	4	3	3
SU2541 Cadastral Surveying II	3	2	2
SU1541 Hydrography II	4	3	3

Geomatics is a comprehensive discipline that uses arts, science, and technology to gather, store, process, model, analyze, and deliver spatially referenced or location information. It encompasses the fields of geodesy, Global Navigation Satellite Systems (GNSS), land surveying, hydrography, mapping, remote sensing (often called earth observation), photogrammetry, and Geographic Information Systems (GIS). Mainstream technologies, such as Google Earth, smartphones, 3D movies, and self-driving cars, are all based on geomatics technologies.

The Geomatics/Surveying Engineering Technology (Co-op) program prepares students for successful careers in their chosen branch of geomatics. Using state-of-the-art equipment and software, students acquire the skills and knowledge to excel in an ever-advancing industry.

Graduates of the program will be able to apply their skills and knowledge to any number of unique projects, including combating climate change, urban planning, constructing pipelines, operating and troubleshooting navigation systems, investigating lost property boundaries, seafloor structure installation and commissioning, and preserving tangible and intangible cultural heritage, to name just a few.

The Geomatics/Surveying Engineering Technology (Co-op) program boasts nearly a 100 percent employment rate, with graduates working all over the world and receiving competitive starting salaries ranging from $40,000 up to $100,000 annually, depending on the field and geographical location of employment. Recent graduates report immediate and sustained employment within the geomatics field.

With rapid advancements in technology from location-based mobile devices, data capture with drones or Remotely Piloted Aircraft Systems (RPAS), cloud computing, augmented and virtual reality, and 3D modelling for construction, preservation, and renovations, the need for geomatics professionals is increasing at an accelerated pace.

CAREER OPPORTUNITIES
The diverse subject matter of geomatics allows graduates of the Geomatics/Surveying Engineering Technology (Co-op) program to obtain jobs in a number of different areas, including:

- Land Surveying and Cadastral Mapping
- Municipal Design
- Construction Engineering
- Ocean Mapping and Marine Construction
- Marine Seismic Survey
- Infrastructure and Resource Management
- Utilities Management and Mapping
- Environmental Monitoring
- Oil and Gas Development
- Mining Surveying and Mapping
- Cultural Preservation

Graduates of the program may also find themselves:

- using Remotely Piloted Aircraft Systems (RPAS) and Global Navigation Satellite Systems (GNSS) for topographic mapping
- providing technical support for spatial data collection and integration for infrastructure management
- travelling the globe providing technical support
- producing 3D models
- using Geographic Information Systems (GIS) and remote sensing to provide advice on green mining projects
- providing offshore navigation and positioning for the installation of marine structures and the completion of marine seismic surveys
- conducting boundary retracement surveys for the production of legal land survey plans

Graduates with two years of progressive work experience may be eligible to receive the designation of Professional Technologist (P. Tech) upon completion of a Professional Practice and Ethics Exam.

Graduates who have obtained a certificate of completion from the Canadian Board of Examiners for Professional Surveyors (CBEPS) may become members of provincial survey associations, such as the Association of Newfoundland Land Surveyors (ANLS), and begin their training to become professional land surveyors. They may also become student members of the Association of Canada Lands Surveyors (ACLS) and members of Professional Surveyors Canada (PSC).

SKILL SETS ACQUIRED

Graduates of the Geomatics/Surveying Engineering Technology (Co-op) program will have employable skills in:

- Land Surveying
- Construction Surveying
- Geodetic Surveying
- Hydrographic Surveying
- Topographic Mapping
- Remote Sensing
- Photogrammetry
- Geographic Information Systems (GIS)
- Global Navigation Satellite Systems (GNSS)
- Robotic Total Station Applications
- Terrestrial and Mobile 3D Laser Scanning
- Remotely Piloted Aircraft Systems (RPAS)

ACCREDITATION

The Geomatics/Surveying Engineering Technology (Co-op) program is accredited by:

- the Canadian Technology Accreditation Board (CTAB) under the mandate of the Canadian Council of Technicians and Technologists (CCTT)
- Co-operative Education and Work-Integrated Learning Canada (CEWIL Canada)

The academic credentials of graduates of accredited technology programs are recognized internationally by the signatories of the Sydney Accord.

The Geomatics/Surveying Engineering Technology (Co-op) program also receives several specific exam exemptions from the Canadian Board of Examiners for Professional Surveyors (CBEPS), which establishes, assesses, and certifies the academic qualifications of individuals who apply to become professional land surveyors and/or geomatics professionals in Canada.

Graduates of the Geomatics/Surveying Engineering Technology (Co-op) program:

- are automatically eligible for membership in the Association of Engineering Technicians and Technologists of Newfoundland and Labrador (AETTNL), as well as any similar association in Canada
- are eligible to further their education by completing a Bachelor of Technology (B. Tech) at Memorial University, which has an articulation agreement with the College of the North Atlantic
- can further their careers in geomatics by attending the University of New Brunswick, which awards graduates of the Geomatics/Surveying Engineering Technology (Co-op) program a limited number of credits toward a Bachelor of Science in Engineering (BScE) in Geomatics Engineering

OBJECTIVES

Graduates of the Geomatics/Surveying Engineering Technology (Co-op) program will be able to:

1. Assemble, manage, collect, process, and interpret geomatics project data.
2. Design and establish horizontal and vertical survey networks, including error analysis and adjustments.
3. Analyze, translate, and present processed geomatics data.
4. Work in teams to plan and monitor various parts of geomatics projects.
5. Evaluate and apply geomatics equipment and techniques to complete various geomatics projects.
6. Identify and analyze physical features using various remote sensing techniques.
7. Perform various engineering surveys for design, construction, and layout.
8. Interpret, process, and analyze geomatics data to produce digital plans, drawings, and reports.
9. Correctly apply principles of reference systems and reference frames, time systems, and earth properties when performing geodetic computations and surveys.
10. Use aerial photogrammetry to produce various photogrammetric products.

CURRICULUM

General education consisting of Communications (oral or written), Mathematics, Physics, Chemistry, Electrotechnology, Computers, and Engineering Graphics.

Specific education in all aspects of Geomatics.

Practical education employing extensive field training to provide experience with instrumentation and software, through Surveying Camps and practical lab sessions.

Work exposure consisting of field experience, gained from compensated work terms, in the field of geomatics/surveying.

HANDS-ON LEARNING
The Geomatics/Surveying Engineering Technology (Co-op) program provides students with opportunities for hands-on learning through the following:
- course laboratories
- two work terms
- two field camps

CERTIFICATIONS
In addition to the formal courses listed in the program of studies, students in the Geomatics/Surveying Engineering Technology (Co-op) program are required to obtain a certificate of completion, valid upon graduation, for the following:
- Standard First Aid/Heart Start
- WHMIS
- Power Line Hazards

Additionally, students may have the option of obtaining the following certificate (when offered):
- Small Remotely Piloted Aircraft Systems (RPAS), Visual Line-of-Sight (VLOS) Advanced Operations Certificate

Students should be aware that additional fees may apply for field camp activities as well as any external certifications required throughout the program.

ENTRANCE REQUIREMENTS
Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:

1. High School
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English (2 credits) (minimum 60%) from: 3201
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Science (4 credits) two of which must be selected from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math (60% MINIMUM) MA1040, MA1041
ii. Two Science courses chosen from one of the following three combinations:
a. Introductory Biology: BL1020, BL1021
b. Introductory Chemistry: CH1030, CH1031
c. Introductory Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i. English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii. Science from one of the following sections:
a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Industrial Engineering Technology (Co-op)

DIPLOMA

- **Three Years**
- **September**
- **Ridge Road Campus**

COURSES
CODE   TITLE   Hrs/wk
Semester 1 and 2 - Refer to Engineering Technology (First Year)

Semester 3 Intersession	Cr	Le	La
CG1500 Work Methods and Measurement	4	3	2
TM1310 Technical Modeling - Mechanical Drawings	2	1	2
SP2450 OHS Management Systems	3	3	0
SP1210 Machine Shop Practice	2	1	2

The Course and Lab hours per week are based on a 15 week semester. In intersession the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to the course outline.

Semester 4 Fall	Cr	Le	La
CF1100 Materials and Processes I	3	3	1
CF2100 Mechanics of Solids: Statics	3	3	1
SP2325 Quality Assurance	3	3	0
MA2100 Mathematics	5	5	0
CG2110 Supply Chain Management	3	3	1
CG2160 Lean Methods	3	3	1
SE1041 Ergonomics	3	3	1

Semester 5 Winter	Cr	Le	La
DE1110 Applied Research	3	3	0
DE2350 Project Management	3	2	2
SP2510 Plant and Facility Layout	4	3	2
PS1330 Organizational Behaviour	3	3	0
AC2280 Accounting	4	4	0
EC1700 Economics	2	2	0
CF1120 Materials and Processes II	3	3	1
FM3100 Fluid Power (Hydraulics/Pneumatics)	3	3	1

Semester 6 Spring	Cr	Le	La
WC1400 Work Term I	5	0	0

Semester 7 Fall	Cr	Le	La
CG3501 Production Planning	3	3	1
LW1500 Law and Ethics	3	3	0
DE3110 Project Controls	3	2	2
DE3300 Information Systems Design	3	2	2
ME1400 Mechatronics I - PLC	3	2	2
ME3400 Mechatronics III – Robotics	3	2	2
MA1670 Statistics	4	4	1
PR3600 Capstone Project I (Seminar)	*P/F	1	0

*The credit hour from PR3600 Capstone Project I (Seminar) in Semester 7 is allotted to PR3725 Capstone Project II in Semester 9.

Semester 8 Winter	Cr	Le	La
WC1401 Work Term II	5	0	0

Semester 9 Spring		Cr	Le	La
DE1200	Operations Research	3	3	1
FM3200	Machine Design I	3	3	1
SP1420	Asset Maint. and Reliability	3	2	2
CF3100	Mechanics of Solids: Dynamics	3	3	1
PR3725	Capstone Project II	4	3	0
DE3505	Decision Making in Engineering	3	2	2
SP1805	Metrology and Quality Control I	4	3	2

Industrial Engineering Technologists are the link between engineering and business. Relying on strong technical ability, good business judgment, and superior people skills, Industrial Engineering Technologists improve profitability, productivity, quality and safety in the production and service sectors. This unique combination of skills makes graduates attractive to employers in a wide variety of industries including oil and gas, energy, mining, manufacturing, food processing, fabrication, construction, government, consulting, and health care.

ACCREDITATION
This program is accredited by the Canadian Technology Accreditation Board under the mandate of the Canadian Council of Technicians and Technologists.

Graduates completing this program are automatically eligible to apply for membership in the Association of Engineering Technicians and Technologists of Newfoundland and Labrador (AETTNL), as well as any similar association in Canada.

Upon completion of this program graduates may choose to further their education by completing a bachelor degree in technology or engineering at one of several institutions that have articulation agreements with College of the North Atlantic.

This program is also a CEWIL (Co-operative Education and Work-integrated Learning) accredited program.

OBJECTIVES
As an industrial engineering technologist, the graduate will have the knowledge and skill that will allow him/her to:

1. Analyze engineering and business processes, using industrial engineering principles, to improve productivity.
2. Optimize process designs that are both safe and productive while ensuring quality standards are met at minimal cost.
3. Plan and control projects using project and cost management techniques and superior documentation and communication skills.
4. Employ problem solving and management strategies that are fundamental to success in various industry and business settings.
5. Create quality assurance / quality control procedures, in an industrial environment, to improve the effectiveness of the business.
6. Formulate efficiency improvement plans using lean manufacturing techniques.

CURRICULUM
General education consisting of Communication Skills, Mathematics, Physics, Chemistry, Electrotechnology, Computers, and Engineering Graphics (CAD).

Specific education in engineering technology consisting of computer based analysis and design, materials science, machine design, business management, project management and control, and supply chain management.

Practical education employing labs and shops focused on industrial engineering technology such as ergonomics, work measurement, plant layout, facility planning, production planning, and computer integrated manufacturing.

Work exposure consisting of field experience, gained from compensated work terms, in the field of industrial engineering.

CAREER OPPORTUNITIES
Graduates of this program may obtain employment in a wide variety of industries. Previous graduates have been successful in obtaining employment with oil and gas, energy, servicing, aerospace, mining, ship building, manufacturing and health services industries.

Graduates with two years of progressive work experience may be eligible to receive the designation of Professional Technologist (P. Tech) upon completion of a Professional Practice and Ethics Exam.

CERTIFICATIONS
In addition to the formal courses listed in the program of studies, students in the Industrial Engineering Technology (Co-op) program are required to obtain the following certifications of completion over their three-year period of study:

- Standard First Aid/Heart Start
- WHMIS/OHS

Students should be aware that additional fees may apply for external certifications.

ENTRANCE REQUIREMENTS
Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:

1. High School
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English (2 credits) (minimum 60%) from: 3201
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Science (4 credits) two of which must be selected from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math (60% MINIMUM) MA1040, MA1041
ii. Two Science courses chosen from one of the following three combinations:
a. Introductory Biology: BL1020, BL1021
b. Introductory Chemistry: CH1030, CH1031
c. Introductory Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i. English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii. Science from one of the following sections:
a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Instrumentation and Controls Engineering Technology

DIPLOMA
- **Three Years**
- **September**
- **Ridge Road Campus**

COURSES

CODE	TITLE	Hrs/Wk		
Semester 1 and 2 - Refer to Engineering Technology (First Year)				

Semester 3 (Intersession)		**Cr**	**Le**	**La**
AE1265	Analog Electronics	3	2	2
CI1313	Fabrication Techniques/Network Cabling	3	2	3
CI1360	Basic Process Automation	2	1	2
ET2100	Electro-technology	3	2	2

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4 (Fall)		**Cr**	**Le**	**La**
CE1210	Basic Communications Network I	4	3	3
CI2110	Pressure Level Measurement and Control	4	3	3
DP1110	Digital Systems I (Logic)	4	3	2
MA2100	Mathematics	5	5	0
MP2170	AC Circuits and Machines	4	3	3

Semester 5 (Winter)		**Cr**	**Le**	**La**
CE2810	Industrial Communication Systems	4	3	2
CI2230	Flow and Temperature Measurement and Control	4	3	2
DP2435	Digital Systems II	4	3	2
DP3110	PLC	4	3	3
DR2350	Engineering Graphics for Instrumentation	2	1	2
MP3170	Industrial Motor Controls	4	3	2

Semester 6 (Intersession)		**Cr**	**Le**	**La**
CE2940	HMI & SCADA	4	3	2
CI2120	Final Control Elements and Instrument Air Systems	3	2	2
PE2730	Industrial Instrumentation Practices	2	1	3

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 7 (Fall)		**Cr**	**Le**	**La**
CI1520	Process Analyzers I	4	3	2
CI2310	Advanced Control Strategies	4	3	3
CI3860	DCS	4	3	3
CM2800	Oral/Written Communication Skills	3	3	0
PR2740	Capstone Project I (Seminar)	*P/F	1	0
PR3150	Project Management and Financial Analysis	4	4	0

*The credit hour from PR2740 Capstone Project I (Seminar) in Semester 7 is allotted to PR2741 Capstone Project II in Semester 8.

Semester 8 (Winter)

		Cr	Le	La
FM3100	Fluid Power	3	3	1
CI3120	Safety Shutdown and Machine Monitoring Systems	4	3	2
CI3822	Process Analyzers II	4	3	3
PE2240	Hazardous Areas	3	2	2
PR2741	Capstone Project II	*4	3	0

The International Society of Automation (ISA) defines instrumentation as "the art and science of measurement and control". It involves using and/or working with instruments used to measure, record, and control process variables (such as level, flow, temperature, and pressure). Complex process control and measurement systems are found in the oil and gas industries, chemical processing industry, food processing operations, power generation, and the pulp and paper industry. Control systems are becoming increasingly used in automating industrial processes to improve productivity, conserve entry, and reduce pollution. This has created a strong demand for trained instrumentation professionals. As our provincial industrial sector grows, instrumentation and controls continue to be an extremely important field of technology.

Graduates completing this program are automatically eligible for membership in the Association of Engineering Technicians and Technologists of Newfoundland and Labrador (AETTNL), as well as any similar association in Canada.

Upon completion of this program graduates may choose to further their education by completing a bachelor degree in technology or engineering at one of several institutions that have articulation agreements with College of the North Atlantic.

ACCREDITATION
This program is accredited by the Canadian Technology Accreditation Board under the mandate of the Canadian Council of Technicians and Technologists.

The academic credentials of graduates of accredited technology programs are recognized internationally by the signatories of the Sydney Accord.

Note: This program may not be suitable for applicants who do not have normal colour perception.

OBJECTIVES
As engineering technologists, graduates of this program will have the knowledge and skills that will allow them to:

1. Design, install, troubleshoot and maintain process automation field and control room devices and systems such as distributed control systems (DCS), programmable logic controllers (PLC), and emergency shutdown systems.
2. Design and program control system interfaces, human machine interfaces (HMI) and graphical interfaces.
3. Use basic engineering principles and knowledge of industrial control systems to help design the control and safety systems for an industrial process.
4. Apply principles of process control to analyze the performance of industrial processes.
5. Apply concepts of measurement and sensor selection to specify, install, configure, calibrate, troubleshoot, and maintain various process instruments commonly used in industry, including electronic transmitters, pneumatic devices, and control valves.
6. Maintain, calibrate and troubleshoot various analytical instruments and analyzer sampling systems found in industrial process.
7. Demonstrate an understanding of industry standards, best practices, and workplace procedures related to safety and professionalism.
8. Prepare technical reports and presentations for effective communications in the workplace.

CURRICULUM
General education consisting of Communication Skills (oral and written), Mathematics, Physics, Chemistry, Electrotechnology, Engineering Graphics, and Technology Awareness.

Specific education focuses on various aspects of process measurement and control, including process control system design incorporating programmable control systems (PLC / DCS / ESD), human machine interfaces (HMI), and machine control and condition monitoring. Specific emphasis is also placed on industrial process analyzers and analyzer sampling systems.

Practical education through curriculum integrated labs employing industrial equipment, techniques and practices relating to the installation, operation and maintenance of transducers, transmitters, measurement and control instruments, and microprocessor-based instrumentation.

CAREER OPPORTUNITIES

Enrolment in the Instrumentation Controls Engineering Technology program results in making a very multifaceted career choice. It prepares graduating students for opportunities in employment locally and internationally in industries such as oil and gas, chemical processing, pulp and paper, power generation, food processing, and manufacturing. Typical positions for a graduate are instrumentation technologist, technical sales/service representative, consultant, plant maintenance person, testing & commissioning technologist, instrument designer, or control systems technologist.

Graduates with two years of progressive work experience may be eligible to receive the designation of Professional Technologist (P. Tech) upon completion of a Professional Practice and Ethics Exam.

CERTIFICATIONS

In addition to the formal courses listed in the program of studies, students in the Instrumentation and Controls Engineering Technology program are required to obtain a Standard First Aid/Heart Start certificate over the three-year period of study.

Students should be aware that additional fees may apply to external certifications.

Graduates of the program may be eligible to receive a "Hazardous Areas Training Certificate." This certification is industry recognized and is designed for personnel carrying out installations, inspection and maintenance of electrical apparatus in potentially hazardous explosive areas in the onshore and offshore oil and gas industries.

ENTRANCE REQUIREMENTS

Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:

1. High School
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English (2 credits) (minimum 60%) from: 3201
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Science (4 credits) two of which must be selected from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math (60% MINIMUM) MA1040, MA1041
ii. Two Science courses chosen from one of the following three combinations:
a. Introductory Biology: BL1020, BL1021
b. Introductory Chemistry: CH1030, CH1031
c. Introductory Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i. English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii. Science from one of the following sections:
a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Mechanical Engineering Technology

DIPLOMA

- **Three Years**
- **September**
- **Ridge Road Campus**

COURSES

CODE	TITLE	Hrs/wk
Semester 1 and 2 - Refer to Engineering Technology (First Year)		

Semester 3 (Intersession)		Cr	Le	La
TM1310	Technical Modeling - Mechanical Drawings	2	1	2
TM1320	Technical Modeling - 3D Modeling	2	1	2
MH1300	Building Operations I	2	2	1
SP2450	OHS Management Systems	3	3	0
SP1200	Machine Shop Practice	1	0	3

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4 (Fall)		Cr	Le	La
CF1100	Materials and Processes I	3	3	1
CF2100	Mechanics of Solids: Statics	3	3	1
ME1400	Mechatronics I - PLC	3	2	2
MA2100	Mathematics	5	5	0
MH2100	Building Operations II	3	3	1
SP1730	CNC Machining I	3	3	1
TD2100	Thermodynamics	3	3	1

Semester 5 (Winter)		Cr	Le	La
CF1120	Materials and Processes II	3	3	1
FM2100	Fluid Mechanics	3	3	1
FM3100	Fluid Power	3	3	1
MA2130	Applied Mathematics	5	5	0
CF2511	Strength of Materials	3	3	1
MH2830	Mechanical Building Systems I – HVAC	3	3	1
TD2140	Thermodynamics	3	3	1

Semester 6 (Intersession)		Cr	Le	La
FM3200	Machine Design I	3	3	1
ME2400	Mechatronics II – Automation	3	2	2
FM2340	Fluid Dynamics	3	3	1

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 7 (Fall)		Cr	Le	La
SP1835	Applied Statistics and Quality Control	4	3	2
PR2770	Capstone Project I (Seminar)	P/F	1	0
CF3100	Mechanics of Solids: Dynamics	3	3	1
TD3140	Heat Transfer	3	3	1
MH3350	Mechanical Building Systems II	4	4	1
CM2800	Oral/Written Communications Skills	3	3	0
SP1420	Asset Maint. & Reliability	3	2	2

Semester 8 (Winter)		Cr	Le	La
PR3150	Project Management and Financial Analysis	4	4	0
ME3400	Mechatronics III – Robotics	3	2	2
FM3220	Machine Design II	3	3	1

SP2370	Quality Assurance	3	3	0
SE1010	Fire Protection	3	3	0
MH4610	Mechanical Building Systems III	3	3	0
PR2772	Capstone Project II	4	3	0
TD3100	Thermodynamics	3	3	1

Mechanical Engineering Technologists develop a diverse technical background, good "hands-on" skills, and excellent people skills. Students will be engaging in emerging trends and the latest innovations in new technologies, building design and building operations. Students will be immersed in Mechatronics, Technical Modeling, Building Operations, Mechanical Building Systems and Machine Design.

These attributes make them well suited to employment in a wide variety of industries in both field and management related roles.

Graduates completing this program are automatically eligible for membership in the Association of Engineering Technicians and Technologists of Newfoundland and Labrador (AETTNL), as well as any similar association in Canada.

Upon completion of this program, graduates may choose to further their education by completing a bachelor degree in technology or engineering at one of several institutions that have articulation agreements with College of the North Atlantic.

ACCREDITATION
This program is accredited by the Canadian Technology Accreditation Board under the mandate of the Canadian Council of Technicians and Technologists. The academic credentials of graduates of accredited technology programs are recognized internationally by the signatories of the Sydney Accord.

OBJECTIVES
Upon successful completion of the Mechanical Engineering Technology program, graduates will have the knowledge and skill that will allow him/her to:

1. Apply fundamental principles for machine design and operation.
2. Create mechanical working drawings and computer based models of mechanical systems using AutoCAD and related engineering analysis software including REVIT.
3. Assist in the design, installation, implementation, operation, maintenance, and management of power generation systems, Heating Ventilation and Air Conditioning (HVAC) systems, and general mechanical support systems which are required for petroleum production systems, petroleum refineries, processing plants, office buildings and residences.
4. Design and create components using vacuum forming, 3D printing, injection molding and laser cutting processes.
5. Program and perform maintenance on robotics for automation applications.

CURRICULUM
General education consisting of Project Management Skills (theoretical and applied), Communication Skills (oral and written), Mathematics, Physics, Chemistry, Electrotechnology, Computers, Engineering Graphics, Technology Awareness, and Student Success.

Specific education consisting of discipline-specific courses such as Mechanics, Strengths, Thermodynamics, , Machine Design, Hydraulics and Pneumatics, Economics, Engineering Management, Quality Assurance, Maintenance, Machining Process Controls and Technological Thesis (Design Project).

Practical education employing labs and shops focused on Engineering Graphics, Materials & Processes, Machine Shop Practices, and Computer Numerical Control (CNC).

CAREER OPPORTUNITIES
The broad base of competencies acquired through this program of study prepares graduates for careers in a wide variety of industries including the petroleum sector, mining, electrical power generation, food processing, manufacturing, and engineering consulting.

Graduates with two years of progressive work experience may be eligible to receive the designation of Professional Technologist (P. Tech) upon completion of a Professional Practice and Ethics Exam.

CERTIFICATIONS
In addition to the formal courses listed in the program of studies, students in the Mechanical Engineering Technology program are required to obtain a Standard First Aid/Heart Start certificate over the three-year period of study.

Students should be aware that additional fees may apply for external certifications.

ENTRANCE REQUIREMENTS

Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:

1. High School

High School Graduation Certificate with a 60% overall average in the following (or equivalent):

i. English (2 credits) (minimum 60%) from: 3201

ii. Mathematics (4 credits) chosen from:

Advanced: 2200, 3200 (50% minimum in each course)

Academic: 2201 (50% minimum), 3201 (60% minimum)

iii. Science (4 credits) two of which must be selected from:

Biology: 3201

Physics: 3204

Chemistry: 3202

Earth Systems: 3209

Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.

2. Comprehensive Arts and Science (CAS) Transition

Comprehensive Arts and Science (Transition) Certificate with the following courses:

i. Math (60% MINIMUM) MA1040, MA1041

ii. Two Science courses chosen from one of the following three combinations:

a. Introductory Biology: BL1020, BL1021

b. Introductory Chemistry: CH1030, CH1031

c. Introductory Physics: PH1050, PH1051

Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.

3. Adult Basic Education (ABE)

Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):

i. English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C

ii. Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C

iii. Science from one of the following sections:

a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C

b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C

c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C

Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Students should be aware that additional fees may apply for any external certifications required throughout the program.

Mechanical Engineering Technology (Manufacturing) Co-op

DIPLOMA

- **Three Years**
- **September**
- **Ridge Road Campus**

COURSES

CODE	TITLE	Hrs/wk

Semester 1 and 2 - Refer to Engineering Technology (First Year)

Semester 3 (Intersession)		Cr	Le	La
CG1500	Work Methods and Measurement	4	3	2
TM1310	Technical Modeling - Mechanical Drawings	2	1	2
SP1200	Machine Shop Practice	1	0	3
TM1320	Technical Modeling - 3D Modeling	2	1	2

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4 (Fall)		Cr	Le	La
CF1100	Materials and Processes I	3	3	1
CF2100	Mechanics of Solids: Statics	3	3	1
SP2450	OHS Management Systems	3	3	0
SP1730	CNC Machining I	3	3	1
SP2131	Applied Metrology I	2	1	3
MA2100	Mathematics	5	5	0
MA1670	Statistics	4	4	1

Semester 5 (Winter)		Cr	Le	La
ME1400	Mechatronics I - PLC	3	2	2
CM2800	Oral/Written Communication Skills	3	3	0
CF1120	Materials and Processes II	3	3	1
FM2100	Fluid Mechanics	3	3	1
FM3100	Fluid Power	3	3	1
SP2132	Applied Metrology II	2	1	3
SP1731	CNC Machining II	4	3	2

Semester 6 (Spring)		Cr	Le	La
WC1900	Work Term I	5	0	0

Semester 7 (Fall)		Cr	Le	La
TD2100	Thermodynamics	3	3	1
LW1500	Law & Ethics	3	3	0
PR3620	Capstone Project I (Seminar)	*P/F	1	0
FM3200	Machine Design I	3	3	1
ME3400	Mechatronics III – Robotics	3	2	2
CG3501	Production Planning	3	3	1
DR3720	Tool Design I	3	3	1
DR3810	Advanced Processes	3	2	3

*The credit hour from PR3620 Capstone Project I (Seminar) in Semester 7 is allotted to PR3621 Capstone Project II in Semester 9

Semester 8 (Winter)		Cr	Le	La
WC1901	Work Term II	5	0	0

Semester 9 (Spring)		Cr	Le	La
CF3100	Mechanics of Solids: Dynamics	3	3	1
SP2325	Quality Assurance	3	3	0
PR3150	Project Management & Financial Analysis	4	4	0
PR3621	Capstone Project II	4	3	0
FM3220	Machine Design II	3	3	1
SP1420	Asset Maint. & Reliability	3	2	2
DR3721	Tool Design II	3	2	2
ME2400	Mechatronics II – Automation	3	2	2

Mechanical Engineering Technologists, who complete studies focused on manufacturing, are proficient in the specification, implementation, operation, maintenance and supervision of manufacturing systems and personnel. These technologists are prepared to assume the role of decision-maker early in their careers in both the traditional and advanced manufacturing sectors. The knowledge of core mechanical engineering principles, above average problem-solving ability, and superior "hands-on" skills also make these graduates well suited to employment in related industries.

Students in this program utilize the advanced technology resources available through the College's Manufacturing Technology Center (MTC). The MTC is mandated to provide both direct and indirect support to industry through activities such as product and process prototyping.

Graduates completing this program are automatically eligible for membership in the Association of Engineering Technicians and Technologists of Newfoundland and Labrador (AETTNL), as well as any similar association in Canada.

Upon completion of this program graduates may choose to further their education by completing a bachelor degree in technology or engineering at one of several institutions that have articulation agreements with College of the North Atlantic.

ACCREDITATION
This program has been accredited since 1998 by the Canadian Technology Accreditation Board (CTAB) under the mandate of the Canadian Council of Technicians and Technologists. In 2019, Technology Accreditation Canada (TAC) became the sole accrediting body of engineering technology programs in Canada. TAC will recognize CTAB accredited programs until the accreditation transition period is complete.

Graduates with two years of progressive work experience may be eligible to receive the designation of Professional Technologist (P. Tech) upon completion of a Professional Practice and Ethics Exam

This program is also CEWIL (Co-operative Education and Work-Integrated Learning) accredited.

The academic credentials of graduates of accredited technology programs are recognized internationally by the signatories of the Sydney Accord.

OBJECTIVES
Upon the successful completion of the Mechanical Engineering Technology (Manufacturing) Co-op program the graduate will be able to:

1. Utilize Computer Aided Design and Computer Aided Manufacturing (CAD/CAM) software as per industry standards.
2. Design mechanical components/assemblies and create engineering drawings and specifications through the use of 2D and 3D CAD and Modeling software.
3. Develop electro-pneumatic and other automation systems, through hands-on practical experience with programming and operating Computer Numerical Control (CNC) equipment, Robotics, Programmable Logic Controllers (PLC's).
4. Operate Computer Integrated Manufacturing (CIM) systems drawing on the knowledge learned through core-engineering concepts of materials science, strength of materials, and machine design.
5. Apply quality assurance standards and practical quality control techniques in precision measurement.
6. Manage projects, resources and people in a supervisor role through the use of problem solving and related skills.

CURRICULUM
General education consisting of Project Management Skills (theoretical and applied), Communication Skills (oral and written), Mathematics, Physics, Chemistry, Electrotechnology, Computers, Engineering Graphics, Technology Awareness, and Student Success.

Specific education consisting of discipline specific courses such as Mechanics, Strengths of Materials, Materials and Processes, Machine Design, Hydraulics and Pneumatics, Engineering Management, Quality Assurance, and Maintenance.

Practical education employing labs and shops focused on Computer Numerical Control (CNC), Tool Design, and Computer Integrated Manufacturing.

Work exposure consisting of field experience, gained from compensated work terms, in the field of manufacturing.

CAREER OPPORTUNITIES
Career opportunities for graduates of this program exist with consulting firms, manufacturing firms, shipbuilding yards, oil & gas servicing industry, food processing plants, research institutions and government departments.

CERTIFICATIONS
In addition to formal semester courses listed in the program of studies, students in the Mechanical Engineering Technology (Manufacturing) Co-op program are required to obtain a certificate of completion in Standard First Aid/Heart Start and WHMIS, over their three-year period of studies.

*Students should be aware that additional fees may apply for external certifications.

ENTRANCE REQUIREMENTS
Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:

1. **High School**
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English (2 credits) minimum 60% from: 3201
ii. Mathematics (4 credits) chosen from:
   Advanced: 2200, 3200 (50% minimum in each course)
   Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Science (4 credits) two of which must be selected from:
   Biology: 3201
   Physics: 3204
   Chemistry: 3202
   Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.
2. **Comprehensive Arts and Science (CAS) Transition**
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math (60% MINIMUM) MA1040, MA1041
ii. Two Science courses chosen from one of the following three combinations:
   a. Introductory Biology: BL1020, BL1021
   b. Introductory Chemistry: CH1030, CH1031
   c. Introductory Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both the Chemistry courses and both of the Physics courses.
3. **Adult Basic Education (ABE)**
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i.   English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii. Science from one of the following sections:
   a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
   b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
   c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. **Mature Student Requirements**
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5**. International Applicants – English Proficiency**
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

ARTICULATION:
Graduates of Mechanical Engineering Technology (Manufacturing) Co-op may continue their studies at Memorial University of Newfoundland in the Bachelor of Technology program or may apply to Lakehead University's post diploma Bachelor of Engineering program.

Petroleum Engineering Technology (Co-op)

DIPLOMA

- **Three Years**
- **September**
- **Ridge Road Campus**

COURSES

CODE   TITLE   Hrs/wk

Semester 1 and 2 - Refer to Engineering Technology (First Year)

Semester 3 (Intersession)	Cr	Le	La
FT1630 Petroleum Operations Practical	P/F	2 wks	
GE1520 Physical Geology	3	2	2
CI2250 Hydraulics	1	1	1
SP2455 Petroleum OHS Management330			

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4 (Fall)	Cr	Le	La
CH2330 Petroleum Organic Chemistry	3	2	2
MA2100 Mathematics	5	5	0
CM2800 Oral/Written Communication Skills	3	3	0
FM2102 Fluid Mechanics	3	3	1
GE1502 Petroleum Geology I	4	3	2
CF2540 Mechanics of Solids	3	3	1
CI1240 Instrumentation Motor Control and PLC	3	2	2

Semester 5 (Winter)	Cr	Le	La
MA1670 Statistics	4	4	1
TD2100 Thermodynamics	3	3	1
GE2510 Petroleum Geology II	4	3	2
PM2130 Drilling	4	3	2
PM2230 Completions	4	3	2
PM2321 Reservoir Estimates	4	3	2

Semester 6 (Spring)	Cr	Le	La
WT1400 Work Term	5	0	0

The Course and Lab hours per week are based on a 15 week semester. The Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 7 (Fall)	Cr	Le	La
PR3150 Project Management & Financial Analysis	4	4	0
TD2130 Heat Transfer & Flow Assurance	3	3	1
PM2140 Well Planning	4	3	2
PM2520 Oil Facilities	3	3	1
PM2222 Production	4	3	2
PM2330 Reservoir Analysis	4	3	2
PR2880 Capstone Project I (Seminar)*	P/F	1	0

*The credit hour from PR2880 Capstone Project I (Seminar) in Semester 7 is allotted to PR2881 Capstone Project II in Semester 8.

Semester 8 (Winter)

		Cr	Le	La
CH2335	Petroleum Chemistry	3	2	2
PR3110	Petroleum Risk Assessment	2	2	1
PM2420	Logging and Formulation Evaluation	5	4	3
PM2530	Gas Facilities	3	3	1
PM2600	Intervention	4	3	2
EN3400	Environmental Management & Protection	3	3	0
PR2881	Capstone Project II	*4	3	0

Semester 9 (Intersession)

		Cr	Le	La
PM2402	Production Logging & Applications	3	2	2
CF3201	Materials & Corrosion	3	3	1
Elective		2	1	3

The Course and Lab hours per week are based on a 15 week semester. The Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Electives:

		Cr	Le	La
PM2180	Well Control	2	1	3
PM2185	Facilities Operations	2	1	3

Oil and gas exploration and development to supply Canada's growing industrial and domestic requirements has increased rapidly during the past decade. The sustained discoveries of oil and gas along the East Coast coupled with continued oil and gas discoveries on the Grand Banks of Newfoundland and Labrador in the Arctic Regions renews Canada's commitment to become self-sufficient in its fossil energy needs. The three year CTAB Accredited Petroleum Engineering Technology (Co-op) program is designed to train technologists for aspects of the oil and gas industry and is supported by the increased interest in sustainable methods of further enhancing science and technology to develop these reservoirs.

ACCREDITATION
This program is accredited by the Canadian Technology Accreditation Board under the mandate of the Canadian Council of Technicians and Technologists.

The academic credentials of graduates of accredited technology programs are recognized internationally by the signatories of the Sydney Accord.

Graduates completing this program are automatically eligible for membership in the Association of Engineering Technicians and Technologists of Newfoundland and Labrador (AETTNL), as well as any similar association in Canada.

Upon completion of this program graduates may choose to further their education by completing a bachelor degree in technology or engineering at one of several institutions that have articulation agreements with College of the North Atlantic.

OBJECTIVES
As a petroleum engineering technologist, the graduate will have the knowledge and skill that will allow him/her to:

1. Demonstrate the knowledge, skills and attitudes required to participate in finding solutions to sustainable Oil and Gas development.
2. Construct and interpret maps and sections using surface geology, subsurface (drill hole) geology and geophysical data.
3. Interpret topographic maps & profiles, geologic maps & sections, and seismic data to assist in land-based and offshore resource exploration and development.
4. Analyze drill cuttings, drill core, and data from open-hole & cased-hole logging tools in order to evaluate reservoir formations in terms of porosity, permeability, fluid saturation and net pay.
5. Assist in planning, designing, inspecting, supervising, and constructing oil and gas wells.
6. Assist in estimating petroleum reserves and optimizing productivity using petroleum engineering principles.
7. Select, operate, troubleshoot and maintain the equipment associated with the separation of the produced gas/oil/water fluids.

CURRICULUM
General education consisting of Project Management Skills (theoretical and applied), Communication Skills (oral and written), Mathematics, Physics, Chemistry, Electrotechnology, Computers, Engineering Graphics, Technology Awareness, and Student Success.

Specific education consisting of technical courses covering Mechanics, Fluid Mechanics, Thermodynamics, Materials and Processes, Instrumentation and Capstone Project.

Practical education employing labs and shops focused on Drilling, Production, Facilities, Reservoir and Geology.

Work exposure consisting of field experience, gained from a minimum 12 week work term which provides students the opportunity to gain valuable related work experience.

CAREER OPPORTUNITIES
Graduates of this program may obtain employment in all aspects of the petroleum industry. These opportunities include but are not limited to oil and natural gas exploration, production and processing, refining, oil and gas pipeline construction, gas utilities, as well as a variety of related activities associated with refining and transportation.

Graduates with two years of progressive work experience may be eligible to receive the designation of Professional Technologist (P. Tech) upon completion of a Professional Practice and Ethics Exam.

CERTIFICATIONS
Students in Petroleum Engineering Technology (Co-op) program will be required to complete the following safety certifications throughout their three-years of study:
- H2S
- WHMIS
- Standard First Aid/Heart Start
- Transportation of Dangerous Goods (TDG) - **during the second year of studies**.

*Students should be aware that additional fees may apply for external certifications.

Note:
Students will also be required to complete a number of non-credit co-op education seminars throughout the program (resume writing, job search skills and interview preparation).

ENTRANCE REQUIREMENTS
Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:

1. High School
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English (2 credits) (minimum 60%) from: 3201
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Science (4 credits) two of which must be selected from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math (60% MINIMUM) MA1040, MA1041
ii. Two Science courses chosen from one of the following three combinations:
a. Introductory Biology: BL1020, BL1021
b. Introductory Chemistry: CH1030, CH1031
c. Introductory Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i. English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii. Science from one of the following sections:
a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C

Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Power Engineering Technology

DIPLOMA

• **Two Years**
• **September**
• **Corner Brook Campus**

Note: Courses are delivered sequentially in modular format

COURSES

CODE	TITLE		
Semester 1 (Fall)		**Cr**	**Hrs**
PW1112	Mechanics & Dynamics	2	30
PW1113	Phys. & Chem. Thermodynamics	2	30
PW1114	Canada Power Eng. Leg. & Reg.	2	30
PW1115	Intro to Plant & Fire Safety	2	30
PW1116	Plant Operation & Environment	2	30
PW1117	Mat. Science & Welding Tech.	2	30
PW1118	Fluid Handling Technology	1	15
PW1119	Electro-Technology Concepts	2	30
PW1122	Energy Plant Inst. & Controls	2	30
PW1123	Industrial Communications	1	15
PW1124	Introduction to Boiler Designs	2	30
PW1125	Elements of Boiler Systems	3	45
PW1126	Power Ops. & Maint. Lab I	6	100

Semester 2 (Winter)		**Cr**	**Hrs**
PW1201	Lubrication & Bearings	2	30
PW1202	Pumps and Compressors	2	30
PW1203	Boiler Safety Devices	2	30
PW1204	Plant Operation & Management	2	30
PW1205	Energy Plant Maintenance	2	30
PW1206	Water Treatment	2	30
PW1207	Prime Movers & Heat Engines	1	15
PW1208	Plant Auxiliary Systems	2	30
PW1209	Compress. & Absorption Refrig.	3	45
PW1211	HVAC for Facility Operators	1	15
PW1212	Bldg. Enviro - Systems & Ctrol.	3	45
PW1213	Ind. Plant Configurations	3	45

Semester 3 (Intersession)		**Cr**	**Hrs**
PW1302	Power Ops. & Maint. Lab II	6	100

An exit option exists after the **first year** for students who successfully complete their studies, practicum and fulfill all SOPEEC requirements.

Upon successful completion of Year One of the Power Engineering Technology Program, students **are** eligible to make application to the Department of Advanced Education Skills and Labour for review and approval to write examinations towards 4th Class Power Engineering certification.

NOTE: Students who have an Inter-Provincial Certificate for 4th Class Power Engineering and who meet the College of the North Atlantic entrance requirements for Power Engineering may enter into the 2nd year of the program September 2019.

Semester 4 (Fall)		**Cr**	**Hrs**
PW2100	Applied Mathematics	3	45
PW2110	Applied Science	3	45
PW2111	Ind. Drawings, Leg. & Codes	2	30
PW2112	Code Calculations - ASME Section 1	2	30
PW2113	Fuels, Combust & FG Analysis	2	30
PW2114	Piping, Valves & Traps	3	45
PW2115	Electrical Theory & Calc.	3	45

PW2116	Instrumentation & Control	2	30
PW2117	Safety & Fire Prevention	1	15
PW2118	Boiler Designs	2	30
PW2119	Power Ops. & Maint. Lab III	6	100

Semester 5 (Winter)		Cr	Hrs
PW220	Boilers & Furnace Operation	3	45
PW2201	Boiler Water Treatment	2	30
PW2202	Pumps, Welding & P. Vessels	3	45
PW2203	Steam Turbines & Auxiliaries	2	30
PW2204	Gas Turbines, Cogen, & IC Engines	3	45
PW2205	Compressors	2	30
PW2206	Refrigeration Aux. & Operation	2	30
PW2207	Heat Exch. & Wastewater Treat.	2	30
PW2208	Plant Maintenance & Admin	1	15
PW2209	Power Ops. & Maint. Lab IV	6	100

Semester 6 (Intersession)		Cr	Hrs
PW2300	On the Job Training (minimum of 6 weeks)	5	240

Upon successful completion of Year Two of the Power Engineering Technology Program, students **are** eligible to make application to the Department of Advanced Education Skills and Labour for review and approval to write examinations towards 3rd Class Power Engineering certification.

Power Engineers, Power Plant Operators, Boiler Operators and Stationary Engineers, are some of the descriptions that summarize a technically skilled professional who may be responsible for the safe operation and maintenance of equipment such as pumps, gas compressors, generators, motors, boilers, steam turbines, air conditioning systems, heat exchangers and refrigeration equipment.

This program is intended to prepare the student for entrance into the Power Engineering field at the 4th Class level after successful completion and meeting *SOPEEC requirements for the first year of the program and entrance into the Power Engineering field at the 3rd Class level after successful completion and meeting **SOPEEC requirements for the second year of the program.

*Upon successful completion of the **first year** program requirements a student **is** eligible to make application to the Department of Advanced Education and Skills and Labour (DAESL) for review and approval to write examinations towards 4th Class Power Engineering certification. Students will be required to complete the practical requirements and utilize the Practicum Guide endorsed by the DAESL.

Upon successful completion of the **second year program requirements a student **is** eligible to make application to the Department of Advanced Education and Skills and Labour (DAESL) for review and approval to write examinations towards 3rd Class Power Engineering certification. Students will be required to complete the practical requirements and utilize the Practicum Guide endorsed by the DAESL.

This program includes a 6-week on the job training experience that students will be able to complete the practical requirements. Graduates of the program are expected to work in varying temperatures, environments, confined spaces, may be required to perform climbing, use hand and power tools, various specialty testers, and perform preventative maintenance of the equipment.

OBJECTIVES
As graduates of the Power Engineering Technology program, graduates will have the knowledge and skills that will allow him/her to:

1. Demonstrate the practical skills necessary for a 4th Class, Power Engineer.
2. Develop and practice proper safety procedures.
3. Demonstrate problem solving skills and good work practices.
4. Utilize essential skill training to enhance their career experience and opportunities.
5. Gain knowledge of control documentation and reporting systems in Power Engineering environments.
6. Prepare for a provincial examination in Power Engineering 4th Class part "A" and "B".
7. Demonstrate the practical skills necessary for a 3rd Class, Power Engineer.

CERTIFICATIONS
In addition to the formal courses listed in the program of studies, students in the Power Engineering Technology Diploma program are required to obtain a certificate of completion in the following upon graduation:
1. Introduction to Confined Space
2. Introduction to Fall Arrest & Protection
3. Introduction to Lock-out – Tag-out

4. Standard First Aid/Heart Start
5. WHMIS
6. Introduction to Newfoundland and Labrador Health & Safety Act

Students should be aware that additional fees may apply for external certifications.

Students will also be required to complete one-day non-credit educational seminars throughout the program in on the job training for the full-time Diploma program. This includes resume writing, job search, interview preparation and professionalism at the worksite.

ENTRANCE REQUIREMENTS
NOTE:
Students who have valid 4th Class Certification and who meet the academic entrance requirements for the Power Engineering Technology program listed below may apply for entry into <u>year two</u> of the program.

If students have a 4th Class Certification and <u>do not meet</u> the academic requirements of the Power Engineering Technology program listed below may apply as a mature student and complete the appropriate CAAT testing, or complete courses in our Comprehensive Arts & Science (CAS) Transition program to meet the academic requirements they are deficient in.

Eligibility for admission to the Power Engineering Technology Program requires the applicant to meet one of the following four academic criteria:

1. High School
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English (2 credits) (minimum 60%) from: 3201
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Science: (4 credits) two of which must be selected from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3. **Note that it is recommended that students considering the Power Engineering program should complete High School Physics.**
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math (60% MINIMUM) MA1040, MA1041
ii. Two Science courses chosen from one of the following three combinations:
a. Introductory Biology: BL1020, BL1021
b. Introductory Chemistry: CH1030, CH1031
c. Introductory Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i. English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii. Science from one of the following sections:
a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Municipal buildings
- Provincial buildings
- Federal buildings
- Health care institutions
- Educational institutions
- Manufacturing
- Mining
- Fishery
- Pulp and Paper
- Oil and Gas

ENGINEERING TECHNOLOGY
Welding Engineering Technician
DIPLOMA
• **Two Years**
• **September**
• **Burin Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1 (Fall)		**Cr**	**Le**	**La**
CM1400	Technical Report Writing I	3	3	0
ET1100	Electro-technology	4	3	2
MA1700	Mathematics*	4	3	2
PH1100	Physics	4	3	2
EG1110	Engineering Graphics	3	2	2
CH1120	Chemistry	4	3	2
SD1170	Technology Awareness I	0	1	0

*Admission into the appropriate Mathematics course will be decided by the grade in high school math.
EITHER
Students who received at least 70% in level III Math 3206 or a pass in Math 3205 can be exempted from MA1700
OR
Students who received a combined average of 70% in 2201 and 3201, or a pass in both of 2200 and 3200 can be exempted from MA1700.

Note: Students may apply for an exemption from MA1700 provided they meet the appropriate high school level in Mathematics as noted above.

Semester 2 (Winter)		**Cr**	**Le**	**La**
CF1100	Materials & Processes	3	3	1
CM1401	Technical Report Writing II	3	3	0
EG1430	AutoCAD Essentials	3	2	2
ET1101	Electro-technology	4	3	2
MA1101	Mathematics	5	5	0
SD1171	Technology Awareness II	2	1	0
WD1440	SMAW Fundamentals	4	2	6

CERTIFICATIONS
Students in Welding Engineering Technician will be required to complete certifications in the following areas: Standard First Aid/Heart Start and WHMIS, prior to the commencement of Semester 3.
*Students should be aware that additional fees may apply for external certifications.

Semester 3(Intersession)		**Cr**	**Le**	**La**
MP2710	Welding Power Sources	2	2	1
SP1320	Radiation Safety	2	2	1
WD1450	SMAW Processes	4	2	6

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4 (Fall)		**Cr**	**Le**	**La**
CF1101	Materials & Processes	3	3	1
CF2560	Strength of Materials	4	4	0
EG1310	Applied CAD	1	0	2
MC1850	Spreadsheet Applications	1	0	2
SP2110	NDT-MT & RT	3	2	2
EG1321	Drawing Interpretation	1	0	3
WD2620	Wire Feed Arc Welding	4	2	6

Semester 5 (Winter)		Cr	Le	La
SP1450	Quality Management Systems	3	3	0
PR3150	Project Management & Financial Analysis	4	4	0
SP2120	NDT-PT & UT	3	2	2
WD2650	GTAW Processes	4	2	6
WD2680	Welding Standards & Codes	2	2	0
WD2300	Welding Failure Analysis	3	2	2
WD2450	Welding Metallurgy	2	2	1

Semester 6 (Intersession)		Cr	Le	La
DR3310	CAD/CAM	2	2	1
WD3120	Cost Analysis Project	5	2	8
LW1070	Ethics & Law	1	1	0

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Welding engineering technicians create and manage quality control and quality assurance systems associated with welding processes and procedures that are governed by industry standards and codes. This program is designed to develop students' skills and knowledge associated with this profession.

Graduates will also acquire the skills to perform the visual and non-destructive testing quality control processes associated with a welding quality management system.

The program is supported by modern shop and laboratory facilities for instruction in Welding, Materials, Science, Nondestructive Testing and Computer Aided Design/Computer Aided Manufacturing (CAD/CAM).

Graduates completing this program are automatically eligible for membership in the Association of Engineering Technicians and Technologists of Newfoundland and Labrador (AETTNL), as well as any similar association in Canada.

ACCREDITATION
This program is accredited by the Canadian Technology Accreditation Board under the mandate of the Canadian Council of Technicians and Technologists.

The academic credentials of accredited technology programs are recognized internationally by the signatories of the Dublin Accord.

NOTE: There are specific vision requirements that are required by the Canadian General Standards Board prior to completing final certification in each discipline. Please refer to the following link for the requirements: http://www.nrcan-rncan.gc.ca/mms-smm/ndt-end/eli-adm/vis-vis-eng.htm

OBJECTIVES
As a welding engineering technician, the graduate will have the knowledge and skill that will allow him/her to:

1. Manage welding quality management systems
2. Interpret and apply standards and codes
3. Determine welding inspection procedures
4. Execute welding inspection and non-destructive testing procedures as defined by standards, codes and related specifications
5. Interpret and evaluate test results
6. Verify procedures and welder or welding operator qualifications
7. Prepare and maintain inspection records and reports
8. Set up equipment, lay out work to specifications and weld to prescribed standards

CURRICULUM
General education consisting of Communication Skills (oral and written), Mathematics, Physics, Chemistry, Electrotechnology, Engineering Graphics, Technology Awareness, and Student Success.

Specific education in the theory and application of welding processes, procedures, and weldments.

Practical education employing labs and shops focused on Welding, Materials, Science, Nondestructive Testing and Computer Aided Design/Computer Aided Manufacturing (CAD/CAM).

CAREER OPPORTUNITIES
The student, upon graduation, may find employment with contractors, metal fabricators, quality assurance/quality control consultants, welding inspection firms, suppliers, oil & gas exploration/production/processing facilities and any other group that must comply with standards associated with the welding industry.

Graduates with two years of progressive work experience may be eligible to receive the designation of Certified Technician (C. Tech) upon completion of a Professional Practice and Ethics Exam.

EXTERNAL CERTIFICATIONS
Students will be eligible to write the following certification examinations upon graduation: (Note: Fees for these examinations are not included in tuition/supply fees.)

- CSA W178.2 Welding Inspection Level 1
- CSA W47.1 Welder/Welder Operator Qualification
- Canadian Nuclear Safety Commission
    - Certified Exposure Device Operator
- CAN/CGSB 48.9712
    - Radiography (RT) Level I
    - Ultrasonic Inspection (UT) Level I
    - Magnetic Particle Inspection (MT) Level II
    - Liquid Penetrant Inspection (PT) Level II

ENTRANCE REQUIREMENTS
Eligibility for admission to an Engineering Technology program requires the applicant to meet one of the following four academic criteria:

1. High School
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English (2 credits) (minimum 60%) from: 3201 or 3202
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Science (4 credits) two of which must be selected from:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
Note: The remaining two Science credits to be chosen from the highest Science mark in level 1, 2 or 3.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i.   Math (60% minimum) MA1040, MA1041
ii.   Two Science courses chosen from one of the following three combinations:
a.   Introductory Biology: BL1020, BL1021
b.   Introductory Chemistry: CH1030, CH1031
c.   Introductory Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in Engineering Technology programs complete both of the Chemistry courses and both of the Physics courses.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i.   English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii.   Mathematics (60% minimum) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii.   Science from one of the following sections:
a.   Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b.   Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c.   Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

School of
Health Sciences

Advanced Care Paramedicine
POST DIPLOMA
- **4 Semesters**
- **September**
- **Bay St. George, and Prince Philip Drive Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
PA2030	Patient Assessment	2	1	3
PA2035	Diagnostic Techniques	4	3	3
CM2202	Oral Communications	2	2	0
Semester 2		**Cr**	**Le**	**La**
PA2040	Assessment-Based Mgmt. I	7	5	7
PA2050	Clinical Skills Dev. I	5	0	6
			+ 3wks clinical	
PA2055	Evidence-Based Practice	2	2	0
Semester 3		**Cr**	**Le**	**La**
PA2060	Assessment-Based Mgmt. II	7	5	7
PA2065	Clinical Skills Dev. II	5	0	6
			+ 3wks clinical	
PA2045	Professional Practice	2	2	0
Semester 4		**Cr**	**Le**	**La**
PA2070	Final Practicum	14	0	14 wks

The provision of emergency medical services (EMS) is a unique and vital community service. Paramedics are highly skilled members of a health care team who function in the realm of EMS, initiating medical treatment for individuals in urgent and non-urgent situations. Based on sound knowledge, paramedics demonstrate rational problem-solving abilities and excellent decision-making skills. This program addresses not only the operational/procedural skills of the advanced care paramedic but also ethical and professional behaviors essential to practice, such as effective communication.

The Advanced Care Paramedicine Program is a four-semester post-diploma program offering training in advanced emergency care to Primary Care Paramedics who are presently practicing in one of the four regional health authorities in the province of Newfoundland and Labrador. Mental/physical fitness and healthy lifestyles are emphasized throughout the program, as paramedics must be fit to perform the requirements of the occupation.

This post-diploma program is designed to allow advancement of practice from the PCP level to the ACP level while allowing students to maintain employment in their respective communities. The program utilizes a blended delivery and part-time structure with a combination of D2L based learning, clinical simulation, and clinical practicum to allow students to meet the requirements for entry to practice at the ACP level in accordance with the National Occupational Competency Profile for Paramedics (NOCP).

This is a challenging program that provides the student with extensive learning experiences while also allowing currently employed PCPs the opportunity to advance their skills. Graduates of this post-diploma program will be prepared to work competently and skillfully, providing advanced out-of-hospital care in accordance with the national standards for advanced care paramedics.

Students who have advanced to semester 4 will be given the opportunity to complete their clinical practicum (PA2070) over 1, 2, or 3 semesters in consultation with the School of Health Sciences.

PROGRAM OBJECTIVES
Upon successful completion of the Advanced Care Paramedicine program, graduates will be able to:
1. Perform advanced skills in respiratory, cardiac, trauma, obstetric care, paediatrics, pharmacology, and medical emergencies.
2. Meet the entry-to-practice competencies and requirements of an Advanced Care Paramedic (ACP) as defined by the National Occupational Competency Profile for Paramedics.

3.   Contribute productively as a member of the health care team.
4.   Use judgement and critical thinking skills to reach decisions that will best benefit the patient, and work autonomously in their areas of responsibility.
5.   Use critical thinking and problem-solving skills that promote logical and independent decision-making in the provision of ACP care.

CLINICAL PLACEMENTS

Clinical placements are a required element of this program and students will be assigned placements at approved training sites. Additional sites may be considered in consultation with program faculty. There is no guarantee that students will receive their preferred placement. All expenses associated with the completion of clinical placement will be the responsibility of the student.

Students require a clear Certificate of Conduct (Criminal Record Check and Vulnerability Sector Check) to be permitted into a clinical placement. Students with an unclear Certificate of Conduct are advised to speak with program faculty at the beginning of the program.

For programs with competitive admissions, clinical placements are not affected by ranking in the competitive admissions process and will be determined under institutional guidelines.

ENTRANCE REQUIREMENTS

Due to the nature of the ACP advanced scope of practice and the critical nature of the professional role, candidates must demonstrate the appropriate proficiency at the PCP level before beginning the ACP program. Eligibility for consideration of admission to the ACP post-diploma program requires the applicant to meet the following criteria:

- Completion of a two-year paramedic diploma or equivalent
- Minimum of 60% in high school Biology 3201 **and** Chemistry 3202, or equivalent
- Successful completion of national COPR examination (PCP) or provincial equivalent
- A minimum of 3500 hours of work experience within the last five years with a licensed paramedic service that must be demonstrated by providing letter(s) from current or recent employers.
- A minimum grade of 60% on a comprehensive entrance exam based on prerequisite PCP knowledge and skills administered by CNA
- Letter of support from the employer indicating commitment for release time and clinical time to complete the program
- Upon admission, applicants must hold and must maintain an active license to practice as a PCP in the province of NL for the duration of the program.
- Current Certificate of Conduct (including Vulnerable Sector Check)
- Immunization Record

(See the Additional Information for Health Sciences Applicants (Definitions and Regulations) section of the calendar or under the Admissions Regulations section of our website for details.)

NOTE:
This program is not open for application as it requires working experience / recommendation from an employer.

Diagnostic Ultrasonography

POST DIPLOMA
• **13 Months**
• **September**
• **Prince Philip Drive Campus**

COURSES

CODE	TITLE	Cr	Le	La
Semester 1		**Cr**	**Le**	**La**
UL4110	Ultrasound Physics	4	4	0
UL4310	Basic Scanning I	P/F	0	14
UL4420	Abdomen	4	4	0
UL4430	Abdomen Pathology	2	2	0

Note: UL4310 has a Clinical Component of 2.5 hours per week for 9 weeks.

		Cr	Le	La
Semester 2		**Cr**	**Le**	**La**
UL4210	Obstetrics	6	6	0
UL4230	Gynecology	2	2	0
UL4311	Basic Scanning II	P/F	0	3
UL4610	Clinical Training	P/F	0	21 hrs/wk
Semester 3 (22 weeks, May-October)		**Cr**	**Le**	**La**
UL4510	Superficial Structures	2	2	0
UL4611	Clinical Training	P/F	0	21 wks

Ultrasonography encompasses the medical use of sound waves to evaluate internal anatomy in real time and to produce diagnostic images. With the continuously expanding applications of ultrasound in today's technologically advanced society, it has made for an exciting and demanding career field. Ultrasound images are used by Radiologists to retrieve critical information regarding the patient and their subsequent diagnosis and treatment. Ultrasound has grown to include applications in abdomen, obstetrics, gynecology, vascular and superficial structures.

OBJECTIVES
Upon successful completion of the Diagnostic Ultrasonography program, graduates will be able to:

1. Utilize academic knowledge as outlined in the Sonography Canada Competency Profile and apply learned knowledge in clinical practice.
2. Apply critical thinking and problem solving skills that promote competence in the performance of ultrasound procedures.
3. Communicate effectively and work collaboratively with other members of the health care team to serve patients and employers with the highest degree of competence.
4. To maintain a high level of professional conduct in the performance of all duties.

CURRICULUM
This is a thirteen month program, which includes training at the college and Eastern Regional Health Authority. Graduates of the program will be eligible to write the certification examinations set by the American Registry of Diagnostic Medical Sonographers (ARDMS) and the examinations set by Sonography Canada.

ACCREDITATION
The program at the Prince Philip Drive Campus is accredited by Accreditation Canada.

PROGRAM TRANSFERABILITY
Graduates may elect to further their studies and obtain a Bachelor of Technology degree from Memorial University of Newfoundland or a Bachelor of Science (Post Diploma, Human Science) from Athabasca University.

CERTIFICATIONS
Students must possess valid Standard First Aid with Cardiopulmonary Resuscitation (CPR) /Basic Life Support (BLS) certification to be eligible for graduation from the College.

CLINICAL PLACEMENTS

Clinical placements are a required element of this program and students will be assigned placements at approved training sites. Additional sites may be considered in consultation with program faculty. There is no guarantee that students will receive their preferred placement. All expenses associated with the completion of clinical placement will be the responsibility of the student.

Students require a clear Certificate of Conduct (Criminal Record Check and Vulnerability Sector Check) to be permitted into a clinical placement. Students with an unclear Certificate of Conduct are advised to speak with program faculty at the beginning of the program.

For programs with competitive admissions, clinical placements are not affected by ranking in the competitive admissions process and will be determined under institutional guidelines.

ENTRANCE REQUIREMENTS

To be accepted into the Diagnostic Ultrasonography program, an individual must have successfully completed an accredited program in Medical Radiation Technology (Medical Radiography, Radiation Therapy or Nuclear Medicine) and possess a certificate of registration with the Canadian Association of Medical Radiation Technologists (CAMRT).

Interested applicants must submit an official application form along with a certified copy of: (1) high school marks (2) Medical Radiation Technology program marks (3) results of CAMRT examinations and (4) proof of current registration with the CAMRT.

Students meeting academic entrance requirements are accepted on a first come, first served basis. Before final acceptance is granted, additional documentation must be submitted; see the Additional Information for Health Sciences Applicants section of the calendar or under the Admissions Regulations section of our website for details.

Medical Laboratory Assistant
CERTIFICATE
• **One Year**
• **September**
• **Grand Falls-Windsor Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
ML1000	General Laboratory Knowledge	3	2	2
ML1010	Orientation & Med Lab Skills	3	2	2
ML1025	Laboratory Calculations	3	3	0
MC1130	Computer Studies	2	2	0
TM1130	Medical Terminology	3	3	0
BL1600	Human Biology	4	3	2
HG1500	Working in Healthcare	3	3	0
Semester 2		**Cr**	**Le**	**La**
ML1030	Practical Clinical Chemistry	3	2	2
ML1040	Practical Hematology	3	2	2
ML1050	Practical Microbiology	3	2	2
ML1060	Practical Histotechnology/Cytology	3	2	2
ML1070	Specimen Collection	3	2	2
CM2201	Oral Communications	2	2	0
Semester 3 (Intersession)		**Cr**	**Le**	**La**
ML1080	Clinical Practicum	6	0	6 wks

Note: In Semester 3 students will be assigned to one of the program's affiliated clinical locations.

Medical Laboratory Assistants are medical laboratory professionals who collect patient specimens, perform pre-analytical procedures to prepare them for analysis, and do data entry, clerical and reception duties. As an integral member of the health care team, the medical laboratory assistant is part of the front line laboratory staff and is often the first person with whom patients and clients interact. The profession therefore requires strong communication and organizational/time management skills as well as professional conduct.

OBJECTIVES
Upon successful completion of Medical Laboratory Assistant program, the graduate will:

1. Utilize academic knowledge as outlined in the Canadian Society for Medical Laboratory Science (CSMLS) competency profile, and apply the learned knowledge in clinical practice.
2. Perform pre-analytical clinical laboratory procedures using appropriate equipment and instruments in accordance with established protocols.
3. Communicate and interact effectively with clients, family members, and members of the health care team.
4. Maintain a high level of professional practice, meeting legal and ethical requirements, while following established protocols, safety guidelines, and existing legislation in the performance of duty.
5. Use quality management / continuous improvement principles to investigate, evaluate, and problem solve in a rapidly changing environment.

CURRICULUM
This is a 36 week program, which includes training at the College as well as clinical placements at various hospitals/clinics throughout Newfoundland and Labrador. Semesters 1 and 2 (15 weeks each in duration) take place at the College whereas Semester 3 consists of a 6-week clinical placement. Graduates of the program will be eligible to write the certification examination set by the Canadian Society for Medical Laboratory Science.

ACCREDITATION
The program at the Grand Falls-Windsor Campus is accredited by Accreditation Canada.

CERTIFICATIONS
Students must possess valid Standard First Aid with Cardiopulmonary Resuscitation (CPR) /Basic Life Support (BLS) certification to be eligible for graduation from the College.

CLINICAL PLACEMENTS
Clinical placements are a required element of this program and students will be assigned placements at approved training sites. Additional sites may be considered in consultation with program faculty. There is no guarantee that students will receive their preferred placement. All expenses associated with the completion of clinical placement will be the responsibility of the student.

Students require a clear Certificate of Conduct (Criminal Record Check and Vulnerability Sector Check) to be permitted into a clinical placement. Students with an unclear Certificate of Conduct are advised to speak with program faculty at the beginning of the program.

For programs with competitive admissions, clinical placements are not affected by ranking in the competitive admissions process and will be determined under institutional guidelines.

ENTRANCE REQUIREMENTS
Eligibility for admission to the Medical Laboratory Assistant program requires the applicant to meet one of the following four academic criteria:

1. High School
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
1. English 3201 or 3202 (minimum 60%)
2. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
3. Science (4 credits) chosen from two of:
Biology: 3201
Physics: 3204
Chemistry: 3202
Earth Systems: 3209
4. Electives (2 additional credits) chosen from any of the remaining 3000 level courses offered in the Senior High School Program.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
1 English (minimum 60%): CM1060, CM1061
2 Math (minimum 60%): MA1040, MA1041
3 Four Science courses chosen from two of the following three combinations:
a. Biology: BL1020, BL1021
b. Chemistry: CH1030, CH1031
c. Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in the Medical Laboratory Assistant program complete the Biology and Chemistry courses.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile (overall 60% average) including the following courses (or equivalent):
1 English (minimum of 60%) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
2 Mathematics (minimum of 60%) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
3 Science from two of the following sections:
a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile (and appropriate grades) may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or

more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Note: Students meeting academic entrance requirements are accepted on a first come, first served basis. Before final acceptance is granted, additional documentation must be submitted; see the Additional Information for Health Sciences Applicants section of the calendar or under the Admissions Regulations section of our website for details.

Medical Laboratory Technology
DIPLOMA
- **Three Years**
- **September**
- **Prince Philip Drive Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
CM2201	Oral Communications	2	2	0
TM1130	Medical Terminology	3	3	0
ML1035	Immunology and Hematology	3	2	2
MA1021	Basic Laboratory Calculations	3	3	0
BL1600	Human Biology	4	3	2
ML1090	Medical Lab Knowledge	3	2	2
ML1011	Orientation to MLT	3	2	2
Semester 2		**Cr**	**Le**	**La**
PS1420	Health Care Organization and Structure	3	3	0
BL2601	Intro to Microbiology	4	3	2
ML1335	Histology	4	3	2
CH2340	Biochemistry	2	2	0
HG1681	Ethics in Health Care	3	3	0
ML1070	Specimen Collection	3	2	2
CS2311	Research Methods and Stats	3	3	0
Semester 3 (8 weeks)		**Cr**	**Le**	**La (hrs)***
CH1350	Urinalysis	2	0	30 hrs
ML1213	Hematology 1	2	0	30 hrs
BL2425	Clinical Microbiology 1	2	0	30 hrs
ML1360	Histotechnology 1	2	0	30 hrs
HG1300	Professional Practice	3	3	0
ML1660	Clinical Practicum 1	2	0	70 hrs /2 wks**

**Students must successfully complete all pre-requisite Semester 3 courses for ML1660 Clinical Practicum 1 in order to be eligible for this course.
Clinical Practicums in Semesters 3 and 9 will take place in a hospital-based setting.

Semester 4		**Cr**	**Le**	**La**
ML2100	Hematology 2	3	2	2
CH2252	Clinical Chemistry 1	3	2	2
BL2431	Clinical Microbiology 2	3	2	3
ML2120	Histotechnology 2	3	2	2
ML2401	Intro to Blood Banking	3	2	2
ML1140	Intro to Quality Management	3	3	0
Semester 5		**Cr**	**Le**	**La**
CH2513	Clinical Chemistry 2	4	3	2
ML2225	Hematology 3	4	3	2
BL2441	Clinical Microbiology 3	3	2	3
ML1520	Intro to Transfusion Medicine	3	2	2
ML2230	Histotechnology 3	4	3	2
Semester 6 (6 weeks)		**Cr**	**Le**	**La (hrs)***
BL3410	Clinical Microbiology Sim 1	2	0	30 hrs
CH3510	Clinical Chemistry Sim 1	2	0	30 hrs
ML2210	Hematology Sim 1	2	0	30 hrs
ML2310	Histotechnology Sim 1	2	0	30 hrs
ML2510	Transfusion Medicine Sim 1	2	0	30 hrs
ML2320	Molecular Diagnostics Sim 1	2	0	30 hrs

Semester 7	**Cr**	**Le**	**La (wks)**
BL3411 Clinical Microbiology Sim 2	3		3 wks
CH3511 Clinical Chemistry Sim 2	3		3 wks
ML2211 Hematology Sim 2	3		3 wks
ML2311 Histotechnology Sim 2	3		3 wks
ML2511 Transfusion Medicine Sim 2	3		3 wks

Semester 8	**Cr**	**Le**	**La (wks)**
BL4410 Microbiology Practicum	3		3 wks
CH4510 Clinical Chemistry Practicum	3		3 wks
ML3210 Hematology Practicum	3		3 wks
ML3310 Histotechnology Practicum	3		3 wks
ML3510 Transfusion Practicum	3		3 wks

Semester 9 **(5 weeks)**	**Cr**	**Le**	**La (wks)**
ML1160 Laboratory Pathophysiology	3	3	0
ML2610 Interdisciplinary Studies	5		5 wks

Clinical Practicums in Semesters 3 and 9 will take place in a hospital-based setting.

Notes:
*Courses with 30 hrs lab to be delivered in condensed block format over a period of 5 days

Students in the 3rd and 9th semesters of the program will be assigned to one of the affiliated hospitals: Burin Peninsula Health Care Centre, Carbonear General Hospital, Central Newfoundland Regional Health Centre, Dr. G. B. Cross Memorial Hospital, Health Sciences Centre, St. Clare's Mercy Hospital, James Paton Memorial Hospital, Charles S. Curtis Memorial Hospital, Labrador Health Centre, and Western Memorial Regional Hospital. Smaller rural sites may also be utilized in Semester 3.

Medical laboratory technologists are integral members of the health care team who perform diagnostic laboratory testing on blood, body fluids and tissues to aid the physician in the diagnosis, treatment and prevention of disease. It is a fast-paced and challenging profession that will appeal to students with a fascination for biological science. It requires manual dexterity, visual color discrimination, a keen eye for detail, organizational/time management skills and judgment/decision-making ability.

Medical laboratory technologists perform a wide array of diagnostic tests including examining bacterial cultures for identification and antibiotic sensitivity, assuring the compatibility of blood for transfusion, identifying abnormal cells, and analyzing the chemical composition of body fluids. As one of Canada's largest group of health care professionals, MLTs play a critical role in the health care system, as up to 80% of decisions related to patient diagnosis and treatment are based on laboratory test results.

This program develops not only the technical skills of the medical laboratory technologist but also the ethical and professional behaviours required of the profession. It is a challenging program that provides the student with extensive classroom, laboratory and clinical/practicum experience. Graduates will be prepared to work in a competent manner providing accurate diagnostic testing in accordance with the national standards for medical laboratory technologists.

OBJECTIVES
Upon successful completion of the Medical Laboratory Technology program, graduates will be able to:

1. Demonstrate required knowledge, skills and abilities, as prescribed by the Canadian Society for Medical Laboratory Science (CSMLS) competency profile, with timelines, accuracy and proficiency.
2. Practice and promote the principles of quality management and the efficient utilization of resources.
3. Apply critical thinking and problem-solving skills that promote competence in the performance of laboratory procedures.
4. Demonstrate research skills to constructively solve problems.
5. Communicate effectively and work collaboratively with other members of the health care team to serve patients and employers with the highest degree of competence.
6. Demonstrate a high level of professional conduct in the performance of duty.

CURRICULUM
The curriculum for this program is designed to encompass three years of training. The first three semesters are spent at the college and emphasis is placed on academic and theoretical training. During the fourth semester the student will have an introduction to the clinical application though a two week practicum at an affiliated clinical site. During the second program year an emphasis is placed on theoretical knowledge unique to the program's disciplines and application of this knowledge in a simulated laboratory environment. The programs third and final year encompasses practical training and clinical experience conducted in affiliated health care institutions.

Graduates of the program at the Prince Philip Drive Campus will be eligible to sit the certification examination set by the Canadian Society for Medical Laboratory Science (CSMLS). The CSMLS is the national professional body for medical laboratory technologists.

PROGRAM TRANSFERABILITY
Graduates may elect to further their studies and obtain a Bachelor of Technology degree from Memorial University of Newfoundland (MUN) or a Bachelor of Sciences (Post Diploma, Human Science) from Athabasca University**.**

ACCREDITATION
This program is accredited by Accreditation Canada.

CERTIFICATIONS
Students must possess valid Standard First Aid with Cardiopulmonary Resuscitation (CPR) /Basic Life Support (BLS) certification to be eligible for graduation from the College.

CLINICAL PLACEMENTS
Clinical placements are a required element of this program and students will be assigned placements at approved training sites. Additional sites may be considered in consultation with program faculty. There is no guarantee that students will receive their preferred placement. All expenses associated with the completion of clinical placement will be the responsibility of the student. Students require a clear Certificate of Conduct (Criminal Record Check and Vulnerability Sector Check) to be permitted into a clinical placement. Students with an unclear Certificate of Conduct are advised to speak with program faculty at the beginning of the program.

For programs with competitive admissions, clinical placements are not affected by ranking in the competitive admissions process and will be determined under institutional guidelines.

ENTRANCE REQUIREMENTS for Academic Year 2021 - 2022
Eligibility for admission to the Medical Laboratory Technology program requires the applicant to meet one of the following four academic criteria:

1.   High School
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
I.   English 3201 or 3202 (minimum 60%)
II.   Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
III.   Science (4 credits):
Biology: 3201 (minimum 60%)
Chemistry: 3202 (minimum 60%)
2.   Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
I.   English (minimum 60%): CM1060, CM1061
II.   Math (minimum 60%): MA1040, MA1041
III.   Four Science courses:
Biology: BL1020, BL1021 (minimum 60%)
Chemistry: CH1030, CH1031 (minimum 60%)
3.   Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile (overall 60% average) including the following courses (or equivalent):
I.   English (minimum of 60%) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
II.   Mathematics (minimum of 60%) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
III.   Science:
Biology (minimum 60%) 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
Chemistry (minimum 60%) 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile (and appropriate grades) may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4.   Mature Student Requirements
Applicants who do not meet the entrance requirements for this program, are must be at least 19 years of age or older,at time of application and have been out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

Note: Before final acceptance is granted, the applicant must also complete the School of Health Sciences Student Information and Program Awareness Form, and submit the requested documentation, including:

1. **Current Certificate of Conduct** obtained from the Royal Newfoundland Constabulary, the Royal Canadian Mounted Police, or local provincial/municipal forces, including the "**Vulnerable Sector Check**". Documents must be within <u>no more than two months prior to registration</u>. Applicants with a criminal offence listed on their Certificate of Conduct may be denied admission.
2. **Student Immunization Record**, providing evidence that the applicant has received the required vaccinations / screening tests. Completion of the immunization record will require physician's visits, blood tests, and a TB screening test; detailed instructions are included on the School of Health Sciences Student Information and Program Awareness Form. The applicant is responsible for ensuring that all medical requirements are fulfilled, and the immunization record complete, before submission. Certain vaccinations require a series of immunizations over a period of time; it is therefore important to start the process as early as possible. The applicant is also responsible for all associated costs (vaccinations, laboratory testing, physician fees, certificate of conduct fees, etc.).

Note: To be employed in the Medical Laboratory Technology field, one must have sufficiently strong eyesight to permit extended microscopic work, and normal colour perception.

ENTRANCE REQUIREMENTS effective Academic Year 2022 – 2023
The competitive admissions process is points-based and includes:

Competitive Admissions Rubric – Medical Laboratory Technology		
Criteria		# Points
1.	A resident of Newfoundland and Labrador	1
2.	Previously applied to the program (<5 years)	1
3.	Successful completion of post-secondary courses*	
	The equivalent of one CNA full-time semester (4 courses)	1
	The equivalent of two CNA full-time semesters (8 courses)	2
4.	Academic average (%) in courses specified as program pre-requisites**	
	60 – 64.9	1
	65 – 69.9	2
	70 – 74.9	3
	75 – 79.9	4
	80 – 84.9	5
	85 – 89.9	6
	90 – 94.9	7
	95 – 100	8
5.	Admissions Exam Official Calculated Score	
	60 – 64.9	1
	65 – 69.9	2
	70 – 74.9	3
	75 – 79.9	4
	80 – 84.9	5
	85 – 89.9	6
	90 – 94.9	7
	95 – 100	8

*Official transcripts are required.
**Academic averages for the program's pre-requisite courses will be calculated as follows:

High School, Adult Basic Education and Comprehensive Arts and Science (Transition) Graduates: The academic average will be calculated using final marks in the courses required for admission to the program.

Current High School, Adult Basic Education, and Comprehensive Arts and Science (Transition) students enrolled in their final year: The academic average will be calculated from marks available by the deadline date. An up-to-date transcript must be submitted, and conditional acceptance may be granted based on this information. Confirmation of acceptance is dependent on ranking after final grades are confirmed.

Marks from equivalent post-secondary courses may be substituted for high school marks for evaluation purposes.

APPLICATION PROCESS - FALL 2022

Program Start Date	September 2022
Deadline for receipt of applications (including ALL supporting documentation) *	March 31st, 2022
Initial round of acceptances	April 30th, 2022
Secondary round of acceptances (if required)	May 30th, 2022

Eligibility for admission to the Medical Laboratory Technology program requires the applicant to meet one of the following three academic criteria:

1.   High School
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
I.   English 3201 or 3202 (minimum 60%)
II.   Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
III.   Science (4 credits):
Biology: 3201 (minimum 60%)
Chemistry: 3202 (minimum 60%)

2.   Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
I.   English (minimum 60%): CM1060, CM1061
II.   Math (minimum 60%): MA1040, MA1041
III.   Four Science courses:
Biology: BL1020, BL1021 (minimum 60%)
Chemistry: CH1030, CH1031 (minimum 60%)

3.   Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile (overall 60% average) including the following courses (or equivalent):
I.   English (minimum of 60%) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
II.   Mathematics (minimum of 60%) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
III.   Science:
Biology (minimum 60%) 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
Chemistry (minimum 60%) 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile (and appropriate grades) may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4.   International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Note: Before final acceptance is granted, the applicant must also complete the School of Health Sciences Student Information and Program Awareness Form, and submit the requested documentation, including:

1. **Current Certificate of Conduct** obtained from the Royal Newfoundland Constabulary, the Royal Canadian Mounted Police, or local provincial/municipal forces, including the "**Vulnerable Sector Check**". Documents must be within no more than two months prior to registration. Applicants with a criminal offence listed on their Certificate of Conduct may be denied admission.
2. **Student Immunization Record**, providing evidence that the applicant has received the required vaccinations / screening tests. Completion of the immunization record will require physician's visits, blood tests, and a TB screening test; detailed

instructions are included on the School of Health Sciences Student Information and Program Awareness Form. The applicant is responsible for ensuring that all medical requirements are fulfilled, and the immunization record complete, before submission. Certain vaccinations require a series of immunizations over a period of time; it is therefore important to start the process as early as possible. The applicant is also responsible for all associated costs (vaccinations, laboratory testing, physician fees, certificate of conduct fees, etc.).

Note: To be employed in the Medical Laboratory Technology field, one must have sufficiently strong eyesight to permit extended microscopic work, and normal colour perception.

HEALTH SCIENCES

Medical Radiography

DIPLOMA

- **Three Years**
- **September**
- **Prince Philip Drive Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
BL1600	Human Biology	4	3	2
CM1270	Communication in Health Care	3	3	0
HG1110	Applied Science for Allied Health	4	3	2
MA1700	Mathematics	4	3	2
PH1110	Foundational Physics	5	4	2
TM1130	Medical Terminology	3	3	0
Semester 2		**Cr**	**Le**	**La**
CM2201	Oral Communications	2	2	0
CS2311	Research Methods and Statistics	3	3	0
MX2102	Radiographic Anatomy I	4	4	0
MX2311	Apparatus and Accessories	4	3	2
MX2415	Patient Care I	4	3	2
PS1420	Health Care Organization and Structure	3	3	0
PH2205	Radiation Physics	3	3	0
Semester 3		**Cr**	**Le**	**La**
HG1300	Professional Practice	3	3	0
MX2105	Radiographic Anatomy II	3	3	0
MX2500	Radiation Protection and Radiobiology	3	3	0
MX1300	Digital Imaging I: CR Systems	3	2	2
Semester 4		**Cr**	**Le**	**La**
HG1681	Ethics in Healthcare	3	3	0
MX1620	Clinical Orientation I	P/F	0	3
MX2110	Radiographic Technique I	5	4	4
MX2210	Digital Imaging II: DDR Systems	4	3	2
MX2320	Introduction to CT and Specialized Imaging	3	3	1
MX2420	Radiographic Anatomy III	3	3	0
MX2430	Radiographic Image Analysis I	2	2	0
Semester 5		**Cr**	**Le**	**La**
MX1621	Clinical Orientation II	P/F	0	3
MX2121	Radiographic Technique II	5	4	4
MX2201	Image Recording: Quality Management	2	2	1
MX2505	CT: Imaging Procedures and Protocols	3	3	1
MX2510	Pathology for Imaging Professionals	3	3	0
MX2515	Patient Care II	4	3	2
MX2520	Radiographic Image Analysis II	2	2	0
Semester 6		**Cr**	**Le**	**La**
MX1510	Clinical Radiography I	16	0	16 wks
Semester 7		**Cr**	**Le**	**La**
MX3250	Clinical Radiography II	16	0	16 wks
Semester 8		**Cr**	**Le**	**La**
MX3260	Clinical Radiography III	16	0	16 wks

Medical Radiological Technologists (MRTs) play a vital role in the diagnosis and treatment of many injuries and illnesses. At a physician's request, MRTs operate equipment that emits x-rays to produce images of a body part or system. Their work involves a wide variety of procedures and specialties, including routine general radiography, mammography, angiography, fluoroscopy, and computed tomography. Committed to providing the highest standard of care, MRTs uses professional judgment and critical thinking to reach decisions, anticipate outcomes, and respond appropriately to individual patient needs and varying contexts of practice.

This is a challenging program consisting of theory courses, psychomotor skill laboratories, and clinical practicum based courses. The program provides the student with extensive classroom and clinical experience. Graduates of this program will be prepared to work competently and skillfully, providing diagnostic imaging care per the national standards for MRT practice. Furthermore, graduates of the program are will be well-positioned to challenge the national competency examination as directed through the Canadian Association of Medical Radiation Technologists.

OBJECTIVES
Upon successful completion of the Medical Radiography program, graduates will be able to:

1. Demonstrate the required skills, knowledge, and abilities, as prescribed by the Canadian Association of Medical Radiation Technologists in relation to development as a professional, communicator, collaborator, care provider, leader, scholarly practitioner, and clinical expert.
2. Contribute productively as a member of the health care team
3. Use judgement and critical thinking skills to reach decisions which will best benefit the patient, and work autonomously in their areas of responsibility
4. Use critical thinking and problem-solving skills that promote logical and independent decision-making in the provision of MRT care.
5. Communicate effectively and work collaboratively with other members of the health care team to serve patients and employers with the highest degree of competence.
6. Reflect professionalism through personal deportment and public interactions.
7. Demonstrate ethical behavior, empathy, and respect for individuals expected of an entry level-MRT.

ACCREDITATION
The Medical Radiography program is accredited until 2023/08/21. Program modifications will require submission of an update to Equal Canada regarding cross-referencing. This cross-referencing has been completed, and the program accreditation is unlikely to be affected until renewal in 2023. It is expected that in the next accreditation cycle, the program will receive a temporary 2-year accreditation due to the length of the program and the potential in having limited graduates from the revised program. This outcome is expected but should not affect future full 6-year accreditation following the completion of the temporary 2-year cycle.

PROGRAM TRANSFERABILITY
Graduates may elect to further their studies and obtain a Bachelor of Technology degree from Memorial University of Newfoundland or a Bachelor of Sciences (Post Diploma, Human Science) from Athabasca University.

CERTIFICATIONS
Students must possess valid Standard First Aid with Cardiopulmonary Resuscitation (CPR) /Basic Life Support (BLS) certification to be eligible for graduation from the College.

CLINICAL PLACEMENTS
Clinical placements are a required element of this program and students will be assigned placements at approved training sites. Additional sites may be considered in consultation with program faculty. There is no guarantee that students will receive their preferred placement. All expenses associated with the completion of clinical placement will be the responsibility of the student.

Students require a clear Certificate of Conduct (Criminal Record Check and Vulnerability Sector Check) to be permitted into a clinical placement. Students with an unclear Certificate of Conduct are advised to speak with program faculty at the beginning of the program.

For programs with competitive admissions, clinical placements are not affected by ranking in the competitive admissions process and will be determined under institutional guidelines.

ENTRANCE REQUIREMENTS
Eligibility for consideration of admission to the MRT program requires the applicant to meet one of the following academic criteria:

1. High School

High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English 3201 or 3202 (minimum 60%)
ii. Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
iii. Science (4 credits):
Biology: 3201
Physics: 3204

2. Comprehensive Arts and Science (CAS) Transition

Comprehensive Arts and Science (Transition) Certificate with the following courses:
1. English (minimum 60%): CM1060, CM1061
2. Math (minimum 60%): MA1040, MA1041
3. Four Science courses:
a. Biology: BL1020, BL1021
b. Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in the Medical Radiography program complete the Biology and Physics courses.

3. Adult Basic Education (ABE)

Adult Basic Education (Level III) Graduation with Degree and Technical Profile (overall 60% average) including the following courses (or equivalent):
1. English (minimum of 60%) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
2. Mathematics (minimum of 60%) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
3. Science from the following sections:
a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
b. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile (and appropriate grades) may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

Additional Entrance Requirements

- Current Certificate of Conduct
- Immunization Record
- ESL students only – one of the following:
  - IELTS: minimum overall band score of 7
  - TOEFL Score: minimum score of 94

(See the Additional Information for Health Sciences Applicants (Definitions and Regulations) section of the calendar or under the Admissions Regulations section of our website for details.)

APPLICATION PROCESS – FALL 2021

Program Start Date	September 2021
Deadline for receipt of applications (including ALL supporting documentation)*	April 30th, 2021

ENTRANCE REQUIREMENTS (2022 - 2023)

Effective **Fall 2022,** a competitive admissions process will be implemented for the College of the North Atlantic's **Medical Radiography** program**.**

The competitive admissions process is points-based and includes 5 sections relating to residency, previous application history, previous post-secondary education, admissions academic average, and a standardized aptitude exam. Applicants will be ranked by point value (maximum of 20 points), and acceptances will be offered according to ranking. Points are awarded based on the following criteria:

Competitive Entry Process

Criteria		# Points
1.	Resident of Newfoundland and Labrador	1
2.	Previously applied to the program (<5 years)	1
3.	Successful completion of post-secondary courses* The equivalent of one CNA full-time semester (4 courses)	1
	The equivalent of two CNA full-time semesters (8 courses)	2
4.	Academic average (%) in courses specified as program pre-requisites**	
	60 – 64.9	1
	65 – 69.9	2
	70 – 74.9	3
	75 – 79.9	4
	80 – 84.9	5
	85 – 89.9	6
	90 – 94.9	7
	95 – 100	8
5.	Admissions Exam Official Score	
	60 – 64.9	1
	65 – 69.9	2
	70 – 74.9	3
	75 – 79.9	4
	80 – 84.9	5
	85 – 89.9	6
	90 – 94.9	7
	95 - 100	8

*Official transcripts are required.
**Academic averages for the program's pre-requisite courses will be calculated as follows:

High School, Adult Basic Education and Comprehensive Arts and Science (Transition) Graduates: The academic average will be calculated using final marks in the courses required for admission to the program.

Current High School, Adult Basic Education, and Comprehensive Arts and Science (Transition) students enrolled in their final year: The academic average will be calculated from marks available by the deadline date. An up-to-date transcript must be submitted, and conditional acceptance may be granted based on this information. Confirmation of acceptance is dependent on ranking after final grades are confirmed.

Marks from equivalent post-secondary courses may be substituted for high school marks for evaluation purposes.

Additional Entrance Requirements

- Current Certificate of Conduct
- Immunization Record
- ESL students only – one of the following:
    - IELTS: minimum overall band score of 7
    - TOEFL Score: minimum score of 94

(See the Additional Information for Health Sciences Applicants (Definitions and Regulations) section of the calendar or under the Admissions Regulations section of our website for details.)

APPLICATION PROCESS – FALL 2022

Program Start Date	September 2022
Deadline for receipt of applications (including ALL supporting documentation)*	March 31st, 2022
First round of acceptances	April 30th, 2022
Second round of acceptances	May 30th, 2022

*Documentation received after the deadline **WILL NOT** be considered
Candidates not accepted for the intake to which they applied must re-apply for admission to future offerings. Applications WILL NOT be kept on file.

CLINICAL PLACEMENT

In addition to a competitive admissions process, students will be expected to travel and incur costs associated with clinical/practicum placements. Placement sites are limited, and students will be assigned based on availability. Clinical placement is NOT affected by ranking in the competitive entry process and will be determined under institutional guidelines.

Personal Care Attendant (PCA)

CERTIFICATE
• **2 Semesters (30 Weeks)**
• **September**
• **Baie Verte, Carbonear, Clarenville, Corner Brook, Grand Falls-Windsor, Happy Valley-Goose Bay, Prince Philip Drive, and St. Anthony Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
PC1120	Foundations for Practice	3	3	0
CM1170	Essentials for Communication & Documentation	3	3	0
PC1130	Workplace Safety	2	2	0
PC1141	Understanding Aging, Dementia & Dying	3	3	1
PC1145	Fundamentals I: Care Basics	6	5	3
PC1150	Clinical Practice I	4	0	4 wks
Semester 2		**Cr**	**Le**	**La**
PC1210	Basic Concepts for Medication Awareness	2	2	0
CM1215	Personal and Career Development Seminars	1	1	0
PC1220	Mental Health Concepts	2	2	0
PC1225	Fundamentals II: Body Systems Approach to Care	6	5	2
PC1230	Clinical Practice II	5	0	5 wks
PC1235	Clinical Preceptorship	3	0	3 wks

Course Lecture (Le) and Lab (La) hours per week are based on a 15 week semester. The actual lecture and lab hours during both semesters will be adjusted to account for the clinical training component.

As integral members of the interdisciplinary healthcare team, Personal Care Attendants are responsible for providing support to clients in all aspects of daily living through companionship, physical, spiritual and psychosocial care. Through the use of classroom instruction, skills development laboratories, and supervised practicums; the PCA educational program provides learners with the necessary skills to work with clients in a variety of institutionalized settings.

OBJECTIVES
Upon successful completion of the Personal Care Attendant (PCA) program, graduates will be able to:
1. Provide holistic, client-centered care across the life-span.
2. Provide safe, competent, and ethical care that adheres to legislation, employer policies and procedures, scope of employment, educational program, evidence-informed practice, and ethical principles.
3. Adhere to workplace safety legislation, employer policies for maintaining a safe working environment, and procedures for responding to and reporting workplace safety concerns.
4. Communicate effectively with clients, families, and the health care team.
5. Respect cultural diversity of the client, family, colleague, and community.
6. Document in a clear, concise manner that is consistent with legal requirements, employer policies, and the provision of care.
7. Report pertinent information in a timely manner to appropriate health care team professionals.
8. Recognize the significance of professionalism, life-long learning, self-care, well-being, and safety in the role of the PCA.

FUTURE OPPORTUNITIES
Graduates will have potential employment opportunities to work as part of a multidisciplinary team in a variety of institutionalized health care settings within Newfoundland and Labrador.

CERTIFICATIONS
Students must possess valid Standard First Aid with Cardiopulmonary Resuscitation (CPR) /Basic Life Support (BLS) certification to be eligible for graduation from the College.

In addition, students must complete on-line modules in Gentle Persuasive Approach (GPA) as well as Workplace Hazardous Materials Information System (WHMIS).
Note: Students may be expected to incur costs associated with completion of the First Aid/CPR certification and the on-line modules in GPA and WHMIS.

CLINICAL PLACEMENTS
Clinical placements are a required element of this program and students will be assigned placements at approved training sites. Additional sites may be considered in consultation with program faculty. There is no guarantee that students will receive their preferred placement. All expenses associated with the completion of clinical placement will be the responsibility of the student.

Students require a clear Certificate of Conduct (Criminal Record Check and Vulnerability Sector Check) to be permitted into a clinical placement. Students with an unclear Certificate of Conduct are advised to speak with program faculty at the beginning of the program.

For programs with competitive admissions, clinical placements are not affected by ranking in the competitive admissions process and will be determined under institutional guidelines.

ENTRANCE REQUIREMENTS
Eligibility for admission to the Personal Care Attendant program requires the applicant to meet one of the following criteria:

1. **High School**
Provincial High School Graduation Certificate, possess a Grade 12 diploma or Grade 12 equivalency documentation.
Note: Preference will be given to students who have successfully completed a Grade 12 English course.
2. Adult Basic Education (ABE)
Adult Basic Education (Level III)
Note: Preference will be given to students who have successfully completed a Grade 12 English course.
3. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program must be at least 19 years of age at the time of application and out of school for at least one (1) year and demonstrate Grade 12 literacy and numeracy equivalency to be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
4. International Applicants – English Proficiency
Demonstrate English proficiency on the IELTS (International English Language Testing System – Academic version) with an overall score of 7.0 and scores of 7.0 speaking, 7.5 listening, 6.5 reading and 7.0 writing. For more information visit: IELTS: www.ielts.org
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Note: Before final acceptance is granted, the applicant must also complete the School of Health Sciences Student Information and Program Awareness Form, and submit the requested documentation, including:
1. **Current Certificate of Conduct** obtained from the Royal Newfoundland Constabulary, the Royal Canadian Mounted Police, or local provincial/municipal forces, including the "**Vulnerable Sector Check**". Documents must be within **no more than two months prior to registration**. Applicants with a criminal offence listed on their Certificate of Conduct may be denied admission.
2. **Student Immunization Record**, providing evidence that the applicant has received the required vaccinations / screening tests. Completion of the immunization record will require physician's visits, blood tests, and a TB screening test (2 step); detailed instructions are included on the School of Health Sciences Student Information and Program Awareness Form. The applicant is responsible for ensuring that all medical requirements are fulfilled, and the immunization record complete, before submission. Certain vaccinations require a series of immunizations over a period of time; it is therefore important to start the process as early as possible. The applicant is also responsible for all associated costs (vaccinations, laboratory testing, physician fees, certificate of conduct fees, etc.).
3. Provide two reference letters supporting entrance into the program. References cannot be provided by family members or friends. References may be provided by individuals such as:
   • Employers
   • Teachers/instructors
   • Representative from a volunteer agency
4. Perform 20 volunteer service hours within the past two years. Volunteer service may include, but is not limited to:
   • Community agencies
   • School programs
   • Church groups
   • Charitable organizations
   Written verification is required for all volunteer hours.
5. Complete a one page written personal statement. Personal statements must address the following:
   • Reason(s) for interest in the program
   • Personal characteristics/skills/abilities that applicants bring to the program
   • Knowledge gained from volunteer experience(s)

Practical Nursing

DIPLOMA
- **19 Months**
- **September**
- **Carbonear, Clarenville, Corner Brook, Grand Falls-Windsor, and Happy Valley-Goose Bay Campuses**

SEMESTER ONE – SEPTEMBER TO DECEMBER (2021) (15 WEEKS)						
COURSE	**HOURS PER SEMESTER**					
	Simulation	**Theory**	**Nursing Skills I & II Labs**	**Clinical**	**Final Exams**	**TOTAL HOURS**
PN 1100 / N101 Introduction to Nursing		36	26			**62**
PN 1130 / N103 Communication and Therapeutic Relationships		36	20			**56**
PN 1225 / N105 Gerontological Nursing		36				**36**
PN 1109 / N109 Anatomy and Physiology I		36				**36**
CLINICAL						
Final Exams (2 hours per each theory course)					8	**8**
Nursing Practice I PN 1110 / CN101 Introduction to Nursing Practice (LTC)				80		**80**
TOTAL		144	46	80	8	**278**

SEMESTER TWO – JANUARY TO APRIL (2022) (15 WEEKS)						
COURSE	**HOURS PER SEMESTER**					
	Simulation	**Theory**	**Nursing Skills III & IV Labs**	**Clinical**	**Final Exams**	**TOTAL HOURS**
PN 1200 / N201 Mental Health Nursing		36				**36**
PN 1290 / N208 Pharmacology I		22	14			**36**
PN 1241 / N209 Anatomy and Physiology II		36				**36**
PN 1251 / N210 Health Assessment		36	21			**57**
CLINICAL						
Final Exams (2 hours per each theory course)					8	**8**
Nursing Practice II PN 1210 / CN201 Mental Health Nursing Practice				80*		**80**
Nursing Practice III PN 1215 / CN210 Leadership in Nursing Practice in the Gerontological Setting				80		**80**
TOTAL	0	130	35	160	8	**333**

SEMESTER THREE – APRIL TO JULY (2022) (12 WEEKS)

COURSE	HOURS PER SEMESTER					
	Simulation	Theory	Nursing Skills V, VI, VII Labs	Clinical	Final Exams	TOTAL HOURS
PN 1300/ N302 Maternal-Child Nursing		36	4			**40**
PN 1170 / N307 Medical-Surgical Nursing I		36	19			**55**
PN 1360 / N308 Pharmacology II		18	12			**30**
CLINICAL						
Final Exams (2 hours per each theory course)					6	**6**
Nursing Practice IV PN 1325 / CN302 Maternal-Child Health Nursing Practice				64**		**64**
Nursing Practice V PN 1375 / CN307 Medical-Surgical Nursing Practice II				80		**80**
TOTAL	0	90	35	144	6	**275**

SEMESTER FOUR – SEPTEMBER-DECEMBER (2022) (15 WEEKS)

COURSE	HOURS PER SEMESTER					
	Simulation	Theory	Nursing Skills VIII Labs	Clinical	Final Exams	TOTAL HOURS
PN 1330 / N401 Community Health Nursing		36				**36**
PN 1380 / N406 Medical-Surgical Nursing II	8	36	18			**62**
PN 1305 / N409 Leadership in Nursing	2	36				**38**
CLINICAL						
Final Exams (2 hours per each theory course)					6	**6**
Nursing Practice VI PN 1375 / CN306 Medical-Surgical Nursing Practice II				80		**80**
TOTAL	10	108	18	80	6	**222**

SEMESTER FIVE – JANUARY-APRIL (2023) (15 WEEKS)						
COURSE	**HOURS PER SEMESTER**					
	Simulation	**Theory**	**Lab**	**Clinical**	**Final Exams**	**TOTAL HOURS**
Nursing Practice VII PN 1400 / CN501 Nursing Practice for Professional Development				160		**160**
Nursing Practice VIII **PN 1410 / CN502** Preceptorship				280		**280**
Nursing Practice IX PN 1403 / CN503 Community Health Nursing Practice	4			80		**84**
TOTAL	4			520		**524**
TOTAL PROGRAM HOURS						
	Simulation	**Theory**	**Lab**	**Clinical**	**Final Exams**	**TOTAL HOURS**
CURRICULUM TOTALS	**14**	**472**	**134**	**984**	**28**	**1,632**

College of the North Atlantic brokers the Practical Nursing program from the Centre for Nursing Studies, delivering it in regions, outside St. John's, with a demonstrated labor market need. To access information for the offering in St. John's please refer to cns.easternhealth.ca.

This program is designed to prepare graduates to provide nursing services for clients across the lifespan in institutional and community based settings within the approved scope of practice for licensed practical nurses in Newfoundland and Labrador. It introduces the student to the role of practical nurse in promoting, protecting, restoring, maintaining and supporting the health status of individuals across the health and developmental continuum.

The program encompasses classroom work supplemented with skills lab and nursing practice components.

CLINICAL PLACEMENTS
Clinical placements are a required element of this program and students will be assigned placements at approved training sites. Additional sites may be considered in consultation with program faculty. There is no guarantee that students will receive their preferred placement. All expenses associated with the completion of clinical placement will be the responsibility of the student.

Students require a clear Certificate of Conduct (Criminal Record Check and Vulnerability Sector Check) to be permitted into a clinical placement. Students with an unclear Certificate of Conduct are advised to speak with program faculty at the beginning of the program.

For programs with competitive admissions, clinical placements are not affected by ranking in the competitive admissions process and will be determined under institutional guidelines.

PN Bursary
The Province of Newfoundland and Labrador provides a Practical Nursing Bursary Program for students enrolled in the Practical Nursing program. The program provides up to a $5,000 bursary to selected students, which covers the education program costs. For more information visit the Department of Health and Community Services website.

"All students in the Practical Nursing Program must demonstrate their capacity to meet the entry-level practical nurse competencies. Please review the CLPNNL Becoming a Licensed Practical Nurse in Canada: Requisite Skills and Abilities document at www.clpnnl.ca. The purpose of this document is to provide potential practical nursing students with information on the requisite skills and abilities of a Licensed Practical Nurse."

ENTRANCE REQUIREMENTS

1. **Applicants who have followed the High School Curriculum of Newfoundland and Labrador**
Applicants shall have completed Graduation Requirements for high school as set down by the Department of Education and obtained an overall average of not less than 65% in 3000 level courses.

OR
Applicants in their final year of high school who will complete the graduation requirements for high school as set by the Department of Education and obtained an overall average of not less than 65% in 3000 level courses may be conditionally accepted prior to the writing of final exams. This conditional acceptance will be subject to verification that the applicant has obtained an overall average of not less than 65% in 3000 level courses, when final examination results are released.

2. **Applicants who have followed the High School Curriculum of other Provinces of Canada // International Applicants**
Applicants from other provinces of Canada or International applicants shall have successfully completed Graduation Requirements for high school as set by the home province/country or equivalent to Newfoundland and Labrador Department of Education in 3000 level courses and obtained an overall average of not less than 65%.

3. **Applicants who have followed the Adult Basic Education Program (ABE)**
Applicants shall have completed the Level III Adult Basic Education (ABE) Certificate with the approved combination of thirty-six (36) credits as set by the Department of Education.

4. **Applicants for Mature Student Status**
An applicant, 21 years or older who has not fulfilled the admission criteria outlined previously. These candidates are expected to provide an official transcript.

**Note: All applicants must follow the Application Process outlined below and must supply all documentation described therein.

<u>**General Admission Requirements**</u>

English Language Requirement
Applicants must be competent in the English Language. A test of English language will be required for applicants whose first language is not English AND/OR applicants who have completed high school in a language other than English. Applicants who do not meet the criteria above but have post-secondary courses completed in English should contact the campus for further instruction regarding testing.

The tests with the acceptable scores are:

- IELTS (International English Language Testing System – Academic version). Scores: overall score of 7.0 with scores of 7.0 speaking, 7.5 listening, 6.5 reading and 7.0 writing.
- CELBAN (Canadian English Language Benchmark Assessment for Nurses). Scores: 8 speaking, 10 listening, 8 reading and 7 writing. The official results of test score must be submitted before a decision will be made on your application. Test scores are valid for two years from the testing date. All cost associated with the English language requirements are the responsibility of the applicant.

Interviews
The College of the North Atlantic reserves the right to interview applicants in any of the admission categories.

Application Process
Applications to the Practical Nursing Program at the College of the North Atlantic will be reviewed for admission <u>**only**</u> when <u>**all**</u> of the following have been provided **within the identified time frames**. Incorrect and/or missing information may jeopardize an applicant's inclusion in the selection process.

- **Online** application form (and applicable fee) submitted.
- Certified copy of the ***<u>official birth certificate</u>*** from the Department of Vital Statistics.
- ***<u>Official</u>*** high school transcript from the Department of Education or equivalency certificate.
- ***<u>Certified copy</u>*** of Level II grades and Level III Term 1 results (for current high school students).
- ***<u>Official transcript</u>*** of all post-secondary courses/programs (if applicable).
- Personal Statement.
- **Two references** (forms provided) *Please note that ***references from family, friends, relatives or co-workers will be deemed unsatisfactory.*** If possible, references should come from previous or current employers and/or instructors/teachers/professors. Referees must forward the Reference Form directly to the campus.
- A personal interview (if requested by the College).

Once an applicant receives a letter of acceptance, the following documentation must be submitted by <u>July 30th</u>.

- Certificate for Basic Life Support (BLS); BLS/Health Care Provider/AED; or Cardio-Pulmonary Resuscitation – Health Care Provider (CPR/HCP) and Standard First Aid course. Both to be completed after **January 2021**. Annual BLS / CPR-HCP re-certification will be required.
- Current Criminal Record Screening Certificate/Police Records Check and Vulnerable Sector Check in satisfactory standing (**dated no earlier than July 2021**).
- Child Protection Records (may be required)

Once an applicant receives a letter of acceptance, the following documentation must be submitted by <u>September 30th</u>.

- Immunization documentation

Primary Care Paramedicine

DIPLOMA
• **68 Weeks**
• **September**
• **Bay St. George, and Prince Philip Drive Campuses**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
BL1180	Anatomy and Physiology	5	5	0
HG1681	Ethics in Health Care	3	3	0
TM1130	Medical Terminology	3	3	0
CM1250	Communications in the Workplace	3	3	0
PA1210	Health & Fitness I	2	1	3
PA1370	Pharmacology I	2	2	0
PA1125	EMS Basics	5	4	4
Semester 2		**Cr**	**Le**	**La**
PA1460	Medical Emergencies I	3	2	2
CM1270	Communications in Health Care	3	3	0
PA1211	Health & Fitness II	2	1	3
PA1520	Mental Health	2	2	1
PA1371	Pharmacology II	3	2	3
PA1230	Airway Management	2	1	3
PA1280	Cardiology	4	3	2
Semester 3 Intersession		**Cr**	**Le**	**La**
PA1290	Community Paramedicine	2	1	2
PA1470	Medical Emergencies II	5	4	2

Course Lecture (Le) and Lab (La) hours per week are based on a 15 week semester. In intersession the Lecture and Lab hours will be adjusted to reflect the shorter semester length.

CODE	TITLE			
Semester 4		**Cr**	**Le**	**La**
PA1440	Clinical 3	0	3 wks	
Semester 5		**Cr**	**Le**	**La**
PA2000	Traumatology	5	3	5
PA2005	Obstetrics and Pediatrics	3	2	3
PA1515	Special Considerations	2	2	0
PA1415	Interagency Relations	3	2	2
PA2020	Simulation Lab	3	0	9
Semester 6		**Cr**	**Le**	**La**
PA2025	Practicum	14	0	14 wks

Provision of emergency medical services (EMS) is a unique and vital community service. Paramedics are highly skilled members of a health care team who function within the discipline of emergency and pre-hospital care. Paramedics initiate medical treatment for individuals in urgent and non-urgent situations. Based on sound knowledge, these practitioners demonstrate rational problem-solving abilities and excellent decision-making skills. This program addresses the operational/procedural skills of the primary care paramedics, as well as the ethical and professional behaviours such as effective communication. Mental/physical fitness and healthy lifestyles are emphasized throughout the program, as paramedics must be fit to perform the requirements of the occupation.

This is a challenging program that provides the student with extensive classroom and clinical/practicum experience. Graduates of this program will be prepared to work in a competent and skillful manner providing pre-hospital care in accordance with the national standards for paramedics.

OBJECTIVES
Upon successful completion of the Primary Care Paramedicine program, graduates will be able to:

1. Demonstrate required skills, knowledge, and abilities, as prescribed by the Paramedic Association of Canada National Occupational Competency Profile with consistency, independence, timeliness, accuracy, and appropriateness.
2. Integrate assessment, diagnostic, and treatment procedures into the holistic management of patients in the out-of-hospital setting.
3. Use critical thinking and problem-solving skills that promote logical and independent decision-making in the provision of paramedic care.
4. Maintain a level of physical and mental health necessary to perform the bona fide occupational requirements.
5. Communicate effectively and work collaboratively with other members of the health care team to serve patients and employers with the highest degree of competence.
6. Reflect professionalism through personal deportment and public interactions.
7. Demonstrate ethical behaviour, empathy and respect for individuals.

ACCREDITATION
This program is accredited by Accreditation Canada.

CLINICAL PLACEMENTS
Clinical placements are a required element of this program and students will be assigned placements at approved training sites. Additional sites may be considered in consultation with program faculty. There is no guarantee that students will receive their preferred placement. All expenses associated with the completion of clinical placement will be the responsibility of the student.

Students require a clear Certificate of Conduct (Criminal Record Check and Vulnerability Sector Check) to be permitted into a clinical placement. Students with an unclear Certificate of Conduct are advised to speak with program faculty at the beginning of the program.

For programs with competitive admissions, clinical placements are not affected by ranking in the competitive admissions process and will be determined under institutional guidelines.

ENTRANCE REQUIREMENTS - Fall 2021
PLEASE NOTE:
Effective immediately, a competitive admissions process has been implemented for College of the North Atlantic's **Primary Care Paramedicine program.**

The competitive admissions process is points-based and includes a pre-screening phase. Applicants will be ranked by point value (maximum of 12 points) and acceptances will be offered according to ranking. Points are awarded based on the following criteria:

<u>**Pre-screening phase**</u>:

1. Resident of Newfoundland and Labrador	1 point
2. Previously applied to program	1 point
3. Successful completion of post-secondary courses	maximum of 2 points
a. Equivalent of one full-time semester (4 courses).....1 point	
b. Equivalent of two full-time semesters (8 courses)...2 points	
Please note that official transcripts are required.	
4. Academic average in courses specified as program prerequisites*	maximum of 8 points
a. 60-64%: 1 point	
b. 65-69%: 2 points	
c. 70-74%: 3 points	
d. 75-79%: 4 points	
e. 80-84%: 5 points	
f. 85-89%: 6 points	
g. 90-94%: 7 points	
h. 95-100%: 8 points	

Please note that if the number of applications received is excessive, not all applicants will proceed to the interview phase; candidates will be pre-screened on the criteria outlined above (maximum of 12 points) and interviews will be offered according to ranking.

*Academic averages for the program's prerequisite courses will be calculated as follows:
1. High School, Adult Basic Education and Comprehensive Arts and Science (Transition) Graduates: The academic average will be calculated using final marks in the courses required for admission to the program.

2. Current High School, Adult Basic Education, and Comprehensive Arts and Science (Transition) students enrolled in their final year: The academic average will be calculated from marks available by the deadline date. An up-to-date transcript must be submitted and conditional acceptance may be granted based on this information. Applicant's receiving a conditional acceptance must submit a final transcript by July 30, 2018. Confirmation of acceptance is dependent on ranking after final grades are confirmed.

*Please note that marks from equivalent post-secondary courses may be substituted for high school marks for evaluation purposes.

Steps in the Application Process	September 2021
Deadline for receipt of applications (including all supporting documentation)*	March 1, 2021
First round of acceptances	June 15, 2021
Final round of acceptances	August 17, 2021

*Documentation received after the deadline date **will not** be considered.

Candidates not accepted for the intake to which they applied must re-apply for admission to future offerings. **Applications will not be kept on file.**

ENTRANCE REQUIREMENTS - FALL 2022
The competitive admissions process is points-based and includes:

Criteria		# Points
1.	Resident of Newfoundland and Labrador	1
2.	Previously applied to the program (<5 years)	1
3.	Successful completion of post-secondary courses*	
	The equivalent of one CNA full-time semester (4 courses)	1
	The equivalent of two CNA full-time semesters (8 courses)	2
4.	Academic average (%) in courses specified as program pre-requisites**	
	60 – 64.9	1
	65 – 69.9	2
	70 – 74.9	3
	75 – 79.9	4
	80 – 84.9	5
	85 – 89.8	6
	90 – 94.9	7
	95 - 100	8
5.	Admissions Exam Official Calculated Score	
	60 – 64.9	1
	65 – 69.9	2
	70 – 74.9	3
	75 – 79.9	4
	80 – 84.9	5
	85 – 89.9	6
	90 – 94.9	7
	95 - 100	8
*Official transcripts are required.		

Academic averages for the program's pre-requisite courses will be calculated as follows:

High School, Adult Basic Education, and Comprehensive Arts and Science (Transition) Graduates: The academic average will be calculated using final marks in the courses required for admission to the program.

Current High School, Adult Basic Education, and Comprehensive Arts and Science (Transition) students enrolled in their final year: The academic average will be calculated from marks available by the deadline date. An up-to-date transcript must be submitted, and conditional acceptance may be granted based on this information. Confirmation of acceptance is dependent on ranking after final grades are confirmed.

Marks from equivalent post-secondary courses may be substituted for high school marks for evaluation purposes.

Eligibility for consideration of admission to the Primary Care Paramedicine program requires the applicant to meet one of the following three academic criteria:

1. **High School**
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
I.   English: 3201 or 3202 (minimum 60%)
II.   Mathematics (4 credits) chosen from:
Advanced: 2200, 3200 (50% minimum in each course)
Academic: 2201 (50% minimum), 3201 (60% minimum)
III. Two Science courses:
Biology: 3201
Chemistry: 3202

2. **Comprehensive Arts and Science (CAS) Transition**
Comprehensive Arts and Science (Transition) Certificate with the following courses:
I.   English (minimum 60%): CM1060, CM1061
II.   Math (minimum 60%): MA1040, MA1041
III. Four Science courses:
Biology: BL1020, BL1021
Chemistry: CH1030, CH1031

3. **Adult Basic Education (ABE)**
Adult Basic Education (Level III) Graduation with Degree and Technical Profile (overall 60% average) including the following courses (or equivalent):
I.   English (minimum of 60%) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
II.   Mathematics (minimum of 60%) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
III. Science :
Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
 Applicants with Adult Basic Education (Level III) Graduation with a different Profile (and appropriate grades) may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4. **International Applicants – English Proficiency**
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Additional Entrance Requirements
•   Current Cardiopulmonary Resuscitation (CPR) or Basic Life Support (BLS)
•   Current First Aid Certificate (Standard)
•   Class 05 Learner (Level 1) Driver's License (minimum)
•   Current Certificate of Conduct, including Vulnerable Sector Check
•   Immunization Record

Note: Employers may require that Paramedics have a Class 04 driver's license which can be obtained through a Provincial Motor Vehicle Registration Office.

Additional Information

Students will be expected to travel and incur costs associated with clinical/practicum placements. Placement sites are limited and students will be assigned based on availability.

Rehabilitation Assistant (OTA & PTA) (DL)
DIPLOMA
- **Two Years**
- **September**
- **Distributed Learning Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
TA1390	Anatomy and Physiology	5	4	3
TM1130	Medical Terminology	3	3	0
CM1270	Communications in Health Care	3	3	0
TA1141	Orientation to Rehabilitation	4	4	0
TA1601	Introduction to Clinical Skills	2	1	3
TA1610	Clinical Orientation Placement	P/F	1 wk	
Semester 2		**Cr**	**Le**	**La**
TA2140	Disease, Injury and Intervention I	4	4	0
TA2221	Communication Disorders in Rehabilitation	2	2	0
PS1130	Psychology I	3	3	0
TA1231	Human Movement and Kinesiology	4	3	2
TA1612	Advanced Clinical Skills	3	2	3
Semester 3		**Cr**	**Le**	**La**
TA2141	Disease, Injury and Intervention II	4	4	0
TA2521	Mental Health Concepts and Techniques	2	2	0
TA1701	Clinical Placement I	2	0	2 wks

Course Lecture (Le) and Lab (La) hours per week are based on a 15 week semester. In intersession the Lecture and Lab hours will be adjusted to reflect the shorter semester length.

CODE	TITLE			
Semester 4		**Cr**	**Le**	**La**
HG1681	Ethics in Health Care	3	3	0
PS1420	Health Care Organization and Structure	3	3	0
TA1511	Introduction to Gerontology	2	2	0
TA2671	Therapeutic Skills I for OTA	5	4	3
TA2685	Therapeutic Skills I for PTA	5	4	3
Semester 5		**Cr**	**Le**	**La**
TA2741	Clinical Placement II for OTA	5	0	5 wks
TA2751	Clinical Placement II for PTA	5	0	5 wks
TA2615	Therapeutic Skills II for the Rehabilitation Assistant	6	5	4

Course Lecture (Le) and Lab (La) hours per week are based on a 15 week semester. In semester 5 the Lecture and Lab hours will be adjusted to account for the clinical training component.

CODE	TITLE			
Semester 6		**Cr**	**Le**	**La**
TA2710	Clinical Placement III for Rehabilitation Assistant	6	0	6 wks

Rehabilitation Assistants provide a vital supporting role in the delivery of efficient and effective rehabilitation services. They work as members of a health care team, under the supervision of and in collaboration with Occupational Therapists and Physiotherapists. Rehabilitation Assistants are involved with the safe and proficient delivery of activities that have been established as a treatment plan for clients coping with temporary or permanent limitations in occupational performance and / or functional movement. The role of the Rehabilitation Assistant varies depending on the practice setting, which includes rehabilitation facilities, hospitals, long-term care facilities, community settings, and private practices. The Rehabilitation Assistant works with individuals, families, or groups, helping clients achieve optimal levels of physical, psychosocial and/or cognitive abilities.

OBJECTIVES

1. To provide the academic knowledge and skills outlined in the competency profiles for Physiotherapist Assistants (Canadian Physiotherapy Association) and Occupational Therapist Assistants (Canadian Association of Occupational Therapists).
2. To apply the learned academic knowledge and skills in clinical practice.
3. To develop effective communication skills and professional behaviours.
4. To perform delegated therapeutic skills safely and effectively under the supervision of an Occupational Therapist or Physiotherapist.
5. To provide the community with skilled Rehabilitation Assistants who can serve their employers and clients with the highest degree of competence.

CURRICULUM

The curriculum for this program encompasses six (6) semesters. Students may enroll on a full or part-time basis. The program is offered through the College's Distributed Learning Service. The Distributed Learning format enables students to take part in education without the restraints of geography and structured time. Technology-enabled learning offers flexibility, collaboration, and interaction without the isolation normally associated with traditional distance education. It also improves access for independent, disciplined students. More information about the Rehabilitation Assistant Program may be found at: https://dls.cna.nl.ca/Rehab.shtml

Web based courses are enhanced by hands-on laboratory sessions and structured clinical placements. These activities take place as close as possible to the student's home location; however, in some cases travel may be necessary. Clinical placements are limited and students will be notified of available locations in their area. Students are responsible for all costs associated with clinical placements.

Graduates of College of the North Atlantic's Occupational Therapist Assistant or Physiotherapist Assistant Certificate program may apply to enter Semester 4 of the Rehabilitation Assistant (OTA and PTA) program to receive dual certification. Graduates with one certification (OTA or PTA) from another institution are also eligible for advanced standing into the Rehabilitation Assistant program; entry point will be determined on a case-by-case basis.

ACCREDITATION

The Rehabilitation Assistant program at College of the North Atlantic has been accredited by the Occupational Therapist Assistant and Physiotherapist Assistant Education Accreditation Program (OTA & PTA EAP) in collaboration with Physiotherapy Education Accreditation Canada (PEAC) and the Canadian Association of Occupational Therapists (CAOT). The status of Accreditation was granted to the program on November 30, 2016 for the period until November 30, 2022.

Contact information for the OTA & PTA EAP:
Occupational Therapist Assistant and Physiotherapist Assistant Education Accreditation Program
Suite 26, 509 Commissioners Road West
London, Ontario
N6J 1Y5
(226) 636-0632
www.otapta.ca

CLINICAL PLACEMENTS

Clinical placements are a required element of this program and students will be assigned placements at approved training sites. Additional sites may be considered in consultation with program faculty. There is no guarantee that students will receive their preferred placement. All expenses associated with the completion of clinical placement will be the responsibility of the student.

Students require a clear Certificate of Conduct (Criminal Record Check and Vulnerability Sector Check) to be permitted into a clinical placement. Students with an unclear Certificate of Conduct are advised to speak with program faculty at the beginning of the program.

For programs with competitive admissions, clinical placements are not affected by ranking in the competitive admissions process and will be determined under institutional guidelines.

ENTRANCE REQUIREMENTS

Eligibility for admission to the Rehabilitation Assistant program requires the applicant to meet one of the following four academic criteria:

1. High School

High School Graduation Certificate with a 60% overall average in the following (or equivalent):

i. English 3201 or 3202 (minimum 60%)

ii. Mathematics (4 credits) chosen from:

Advanced: 2200, 3200 (50% minimum in each course)

Academic: 2201 (50% minimum), 3201 (60% minimum)

iii. Science – (2 credits) chosen from one of:

Biology: 3201

Physics: 3204

Chemistry: 3202

Earth Systems: 3209

iv. Electives (2 additional credits) chosen from any of the remaining 3000 level courses offered in the Senior High School Program.

2. Comprehensive Arts and Science (CAS) Transition

Comprehensive Arts and Science (Transition) Certificate with the following courses:

i. English (minimum 60%): CM1060, CM1061

ii. Math (minimum 60%): MA1040, MA1041

iii. Two Science courses chosen from one of the following three combinations:

a. Biology: BL1020, BL1021

b. Chemistry: CH1030, CH1031

c. Physics: PH1050, PH1051

Note: It is strongly recommended that CAS students who intend to enroll in the Rehabilitation Assistant (OTA/PTA) program complete both of the Introductory Biology courses.

3. Adult Basic Education (ABE)

Adult Basic Education (Level III) Graduation with Degree and Technical Profile (overall 60% average) including the following courses (or equivalent):

i. English (minimum of 60%) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C

ii. Mathematics (minimum of 60%) 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C

iii. Science from one of the following sections:

a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C

b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C

c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C

Applicants with Adult Basic Education (Level III) Graduation with a different Profile (and appropriate grades) may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, must be at least 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Students meeting academic entrance requirements are accepted on a first come, first served basis. Before final acceptance is granted, additional documentation must be submitted; see the Additional Information for Health Sciences Applicants section of the calendar or under the Admissions Regulations section of our website for details.

HEALTH SCIENCES

Respiratory Therapy

DIPLOMA

- **Three Years**
- **September 2021**
- **Prince Philip Drive Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
CM1270	Communications in Health Care	3	3	0
TM1130	Medical Terminology	3	3	0
MA1700	Mathematics	4	3	2
BL1600	Human Biology	4	3	2
RT1100	Introduction to Respiratory Therapy	4	3	3
HG1110	Applied Science for Allied Health	4	3	2
Semester 2		**Cr**	**Le**	**La**
CS2311	Research Methods and Statistics	3	3	0
RT1120	Cardiopulmonary Physiology	4	4	0
RT2305	Pharmacology	3	3	0
RT1130	Cardiopulmonary Patho I	4	4	0
RT2460	RT Techniques	4	3	3
BL2601	Intro to Microbiology	4	3	2
CM2201	Oral Communications	2	2	0
Semester 3 Intersession (7 weeks)		**Cr**	**Le**	**La**
RT1140	Airway Management I	4	3	3
RT1150	Clinical Application I	1	0	3
HG1300	Professional Practice	3	3	0
Semester 4		**Cr**	**Le**	**La**
RT2110	Airway Management II	4	3	3
RT2120	Mechanical Ventilation I	4	3	3
RT2470	Neonatal Respiratory Care	4	3	2
RT2130	Clinical Application II	1	0	3
RT2140	Cardiac Diagnostics	4	3	2
RT2150	Cardiopulmonary Patho II	3	3	0
Semester 5		**Cr**	**Le**	**La**
RT2320	Anesthesia	4	4	0
RT2160	Mechanical Ventilation II	4	3	3
RT2170	Pulmonary Diagnostics	4	3	3
RT3430	Clinical Application III	1	0	3
RT2180	Neonatal Clinical Application	1	0	3
HG1681	Ethics in Health Care	3	3	0
RT2240	Cardiopulmonary Resuscitation	3	2	2
Semester 6 Intersession (7 weeks)		**Cr**	**Le**	**La**
RT2190	Mechanical Ventilation III	2	2	0
PS1420	Health Care Organization and Structure	3	3	0
RT2250	Clinical Application IV	2	0	6
Semester 7		**Cr**	**Le**	**La**
RT3000	Practicum I	15		15 wks
Semester 8		**Cr**	**Le**	**La**
RT3010	Practicum II	15		15 wks
Semester 9 Intersession (7 weeks)		**Cr**	**Le**	**La**
RT3020	Practicum III	7		7 wks

Respiratory therapists are healthcare professionals who contribute to the diagnosis and management of cardiorespiratory disorders, providing such services as cardiopulmonary resuscitation, ventilator management, oxygen and aerosol therapy, patient assessment and evaluation, and diagnostic services including pulmonary function testing. Most respiratory therapists work in hospitals, neonatal nurseries, operating rooms, intensive care units, general wards, pulmonary function labs, and emergency departments. Respiratory therapists may also work in community settings such as homecare, asthma clinics, research, and medical equipment sales and service. Respiratory therapists require good judgement, excellent interpersonal skills, and the ability to maintain their composure in critical medical situations.

Respiratory Therapy (RT) is a challenging comprehensive three-year program featuring two years of classroom, laboratory, clinical simulation, and clinical practicum exposure followed by one year of clinical education in an affiliated clinical site. Program topics include anatomy and physiology, microbiology, applied sciences, pharmacology, pathophysiology, mechanical ventilation, cardiopulmonary diagnostics, and neonatal respiratory care. Clinical application courses in years 1 and 2 utilize simulation and clinical site visits to facilitate theory integration and transition to the third and final year. The clinical phase will consist of 37 weeks of training conducted at approved training facilities within the provincial Regional Health Authorities. The RT program develops the technical skills and professional behaviours required for graduates to work competently as an integral member of the health care team.

Furthermore, program graduates will be well-positioned to challenge the national competency examination as directed through the Canadian Board for Respiratory Care. After completing this exam, they will be eligible to register with the Newfoundland and Labrador Council of Health Professionals.

OBJECTIVES
Upon successful completion of the Respiratory Therapy program, graduates will be able to:

1. Demonstrate the knowledge, skills, and abilities outlined in the National Alliance of Respiratory Therapy Regulatory Bodies (NARTRB) National Competency Framework (NCF) with timeliness, accuracy, and proficiency.
2. Practice and promote the principles of quality management and the efficient utilization of resources.
3. Apply critical thinking and problem-solving skills that promote competence in the performance of respiratory therapy procedures
4. Demonstrate a high level of professional conduct in the performance of duty.
5. Communicate effectively and work collaboratively with other health care team members to serve patients and employers with the highest degree of competence.

ACCREDITATION
The Respiratory Therapy program is registered with Accreditation Canada and a site visit is scheduled for Spring 2022.

PROGRAM TRANSFERABILITY
Graduates may elect to further their studies and obtain a Bachelor of Technology degree from Memorial University of Newfoundland or a Bachelor of Science (Post-Diploma, Human Science) from Athabasca University.

Graduates may also pursue further studies in the areas of Anesthesia Assistant, Cardiovascular Perfusion, or Polysomnography.

CERTIFICATIONS
Students must possess a valid Standard First Aid with Cardiopulmonary Resuscitation/Basic Life Support (CPR or BLS) certification to be eligible for graduation from the College.

CLINICAL PLACEMENTS
Clinical placements are a required element of this program and students will be assigned placements at approved training sites. Additional sites may be considered in consultation with program faculty. There is no guarantee that students will receive their preferred placement. All expenses associated with the completion of clinical placement will be the responsibility of the student.

Students require a clear Certificate of Conduct (Criminal Record Check and Vulnerability Sector Check) to be permitted into a clinical placement. Students with an unclear Certificate of Conduct are advised to speak with program faculty at the beginning of the program.

For programs with competitive admissions, clinical placements are not affected by ranking in the competitive admissions process and will be determined under institutional guidelines.

ENTRANCE REQUIREMENTS
The competitive admissions process is points-based and includes:

Criteria		# Points
1.	Resident of Newfoundland and Labrador	1
2.	Previously applied to the program (<5 years)	1
3.	Successful completion of post-secondary courses*	
	The equivalent of one CNA full-time semester (4 courses)	1
	The equivalent of two CNA full-time semesters (8 courses)	2
4.	Academic average (%) in courses specified as program pre-requisites**	
	60 – 64.9	1
	65 – 69.9	2
	70 – 74.9	3
	75 – 79.9	4
	80 – 84.9	5
	85 – 89.8	6
	90 – 94.9	7
	95 - 100	8
5.	Admissions Exam Official Calculated Score	
	60 – 64.9	1
	65 – 69.9	2
	70 – 74.9	3
	75 – 79.9	4
	80 – 84.9	5
	85 – 89.9	6
	90 – 94.9	7
	95 - 100	8

 *Official transcripts are required.
**Academic averages for the program's pre-requisite courses will be calculated as follows:

High School, Adult Basic Education, and Comprehensive Arts and Science (Transition) Graduates: The academic average will be calculated using final marks in the courses required for admission to the program.

Current High School, Adult Basic Education, and Comprehensive Arts and Science (Transition) students enrolled in their final year: The academic average will be calculated from marks available by the deadline date. An up-to-date transcript must be submitted, and conditional acceptance may be granted based on this information. Confirmation of acceptance is dependent on ranking after final grades are confirmed.

Marks from equivalent post-secondary courses may be substituted for high school marks for evaluation purposes.

APPLICATION PROCESS - FALL 2021

Program Start Date	September 2021
Deadline for receipt of applications (including ALL supporting documentation) * **NOTE: Admissions exam will NOT be required for Fall 2021 admissions.**	March 15, 2021

APPLICATION PROCESS - FALL 2022

Program Start Date	September 2022
Deadline for receipt of applications (including ALL supporting documentation) *	March 31, 2022
Initial round of acceptances	April 30, 2022
Secondary round of acceptances (if required)	May 30, 2022

*Documentation received after the deadline **WILL NOT** be considered

**Candidates not accepted for the intake to which they applied must re-apply for admission to future offerings. Applications WILL NOT be kept on file.

MINIMUM ELIGIBILITY REQUIREMENTS
Eligibility for consideration of admission to the RT program requires the applicant to meet one of the following three academic criteria:

1.   High School
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
I.   English 3201 or 3202 (minimum 60%)
II.   Mathematics (4 credits) chosen from:
        Advanced: 2200, 3200 (50% minimum in each course)
        Academic: 2201 (50% minimum), 3201 (60% minimum)
III.   Two Science courses:
        Biology: 3201
        Chemistry: 3202
2.   Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
I.   English (minimum 60%): CM1060, CM1061
II.   Math (minimum 60%): MA1040, MA1041
III.   Four Science courses
        Biology: BL1020, BL1021
        Chemistry: CH1030, CH1031
3.   Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile (overall 60% average) including the following courses (or equivalent):
I.   English (60% minimum) 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
II.   Mathematics (60% minimum) 1104A, 1104B, 1104C, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
III.   Science
        Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
        Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile (and appropriate grades) may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

Additional Entrance Requirements

- Valid* Certificate of Conduct, including Criminal Record and Vulnerable Sector Check.
- Students will require a clear and current Certificate of Conduct (Criminal Record and Vulnerable Sector Check) prior to clinical practicum. Applicants with a criminal offense listed on their Certificate of Conduct (Criminal Record and Vulnerable Sector Check) may be denied access to clinical placement and may be unable to complete their program.
- Immunization Record providing evidence that the applicant has received the required vaccinations/screening tests. Completing the immunization record will require physician's visits, blood tests, and a TB screening test; detailed instructions are included on the School of Health Sciences Student Information and Program Awareness Form. The applicant is responsible for ensuring that all medical requirements are fulfilled, and the immunization record complete before submission. Certain vaccinations require a series of immunizations over a period; therefore, it is essential to start the process as early as possible. The applicant is also responsible for all associated costs (vaccinations, laboratory testing, physician fees, certificate of conduct fees, etc.).
- ESL students only – one of the following:
  - IELTS: minimum overall band score of 7
  - TOEFL Score: minimum score of 94

(See the Additional Information for Health Sciences Applicants (Definitions and Regulations) section of the calendar or under the Admissions Regulations section of our website for details.)

*Acceptance of the Certificate of Conduct (Criminal Record and Vulnerable Sector Check) is at the discretion of the Health Authority of which clinical practicum is being sought.

X-Ray Skills for Medical Laboratory Technologists

POST DIPLOMA

- **4 Semesters**
- **September**
- **Distributed Learning Campus**

COURSES

CODE	TITLE	Cr	Le	La
Semester 1		**Cr**	**Le**	**La**
LX1110	X-Ray Physics & Radiation Protection	4	4	0
LX1010	Apparatus & Accessories	3	3	0
LX1020	Radiographic Anatomy & Pathology	4	4	0
Semester 2		**Cr**	**Le**	**La**
LX1100	Digital Imaging & Quality Management	6	6	0
LX1050	Radiographic Technique	6	6	0
LX2000	Clinical I P/F	0	3 hr/wk	
Semester 3		**Cr**	**Le**	**La**
LX1060	Patient Care & Safety	2	2	0
LX1070	Simulated Practical Radiography	5	0	7 wks
Semester 4		**Cr**	**Le**	**La**
LX1080	Clinical Radiography	16	0	16 wks

The X-Ray Skills for Medical Laboratory Technologists program is a four (4) semester post-diploma program offering training in basic radiography to Medical Laboratory Technologists who are presently practicing in one of the regional health authorities in the province of Newfoundland and Labrador. The program emphasizes a practical approach to developing the knowledge and skills necessary to perform limited general radiography. Students learn how to interpret requisitions from requesting physicians, provide quality patient care, and operate sophisticated radiation emitting devices to produce images of the skeletal, digestive, respiratory or urinary systems. Combined Laboratory and X-Ray (LX) Technologists practice within the standards set by the provincial Scope of Practice.

The program provides students with the theory of x-ray production, equipment use, and image optimization. Students also study radiographic anatomy, positioning techniques and radiation safety and quality procedures. Theoretical learning is supplemented by practical clinical exposure during the second semester. The third semester concentrates on providing a correlation between theory and patient care through seven (7) weeks of intensive simulation procedures. Finally, students advance to a sixteen (16) week clinical radiography placement where they participate in work-integrated learning under the direct supervision of a registered medical radiography technologist. Students gain experience by applying theoretical and practical concepts and, following attainment of clinical competence, are ready to practice as entry-level Combined Laboratory and X-Ray (LX) Technologists.

PROGRAM OBJECTIVES

Upon successful completion of the X-Ray Skills for Medical Laboratory Technologists program, students will be able to:

1. Practice within the standards of the Combined Laboratory and X-Ray (LX) Technologist Scope of Practice NL.
2. Operate general diagnostic imaging equipment and correctly position patients to produce quality images that assist in diagnosis.
3. Follow radiation protection practices and legislation to minimize risk to patients, staff and visitors.
4. Maintain and assess radiographic, accessory, and image processing equipment for quality assurance and mitigation of potential risks.
5. Provide general patient care, assessments, and transfers as needed.
6. Practice independent judgment and critical thinking in the performance of duties.
7. Perform administrative and clerical duties using computer technology while ensuring compliance with legal, quality and privacy standards.

CLINICAL PLACEMENTS

Clinical placements are a required element of this program and students will be assigned placements at approved training sites. Additional sites may be considered in consultation with program faculty. There is no guarantee that students will receive their preferred placement. All expenses associated with the completion of clinical placement will be the responsibility of the student.

Students require a clear Certificate of Conduct (Criminal Record Check and Vulnerability Sector Check) to be permitted into a clinical placement. Students with an unclear Certificate of Conduct are advised to speak with program faculty at the beginning of the program.

For programs with competitive admissions, clinical placements are not affected by ranking in the competitive admissions process and will be determined under institutional guidelines.

ENTRANCE REQUIREMENTS

Entrance requirements for the X-Ray Skills for Medical Laboratory Technologists program are as follows:

- Graduation from an accredited program in Medical Laboratory Technology
- MLT Certification and membership with the Canadian Society for Medical Laboratory Science (CSMLS)
- Employed at a Regional Health Authority within the province of Newfoundland and Labrador as a Medical Laboratory Technologist and sponsored by the employer

School of Industrial Trades and Natural Resources

Aircraft Maintenance Engineering Technician

DIPLOMA

- **Two Years**
- **September**
- **Gander Campus**

COURSES

CODE	TITLE	
Semester 1		**Hrs**
MA1070	Structural Repair Shop Mathematics	30
MA1072	Aircraft Maintenance Mathematics	30
GM1120	General Maintenance Procedures (M, E, S)	30
GM1130	Aircraft Servicing (M, E)	25
GM1140	Standard Workshop Practices (M, E, S)	55
PE1100	Basic Electronics (M, E)	55
PT1115	Reciprocating Engine Fundamentals (M, E)	20
PT1110	Reciprocating Engine Fundamentals (M)	35
AF1130	Aircraft Structures & Materials (M, E, S)	55
PE1140	Basic AC Electronics (M, E)	55
PE1200	Basic Aircraft Electrical Systems (M, E)	55
Semester 2		**Hrs**
PH1300	Physics for Aircraft Maintenance	60
PE2100	Analog Electronics (M, E)	55
GM1320	Aircraft Weight & Balance (M, E)	25
GM1420	Non-Destructive Testing (M)	30
AV1220	Basic Aircraft Instruments I (M, E)	55
AS2225	Aerodynamics & Flight Controls (M,E)	25
AS2220	Aerodynamics & Flight Controls (M)	30
GM1550	Maintenance Regulations (M, E, S)	55
TS1550	WHMIS	6
AS2520	Reciprocating Engine Fuel Metering (M)	55
AV1320	Aircraft Communications Equipment (M, E)	55
Semester 3		**Hrs**
AF1240	Aircraft Structural Repair (M, E, S)	55
DP1840	Motors, Generators & Starting Systems (M, E)	55
AS2165	Aircraft Landing Gear Systems (M, E)	30
AS2160	Aircraft Landing Gear Systems (M)	25
AS2120	Aircraft Hydraulics & Pneumatic Systems (M)	25
AS2125	Aircraft Hydraulics & Pneumatic Systems (M,E)	30
Semester 4		**Hrs**
EG1160	Technical Graphics	60
PT2120	Reciprocating Engine Systems (M)	55
PT2210	Turbine Engine Maintenance (M, E)	55
AS2335	Aircraft Systems, (M, E)	30
AS2330	Aircraft Systems (M)	25
AV2220	Aircraft Instruments II (M, E)	55
AV1500	Basic Navigation I (M, E)	31
AV2170	Pulse Navigation Systems (M, E)	25
AF1270	Composite Materials (M, S)	55
PE1300	Battery Maintenance (M, E)	25
PE1350	Electrical Power Systems (M, E)	30

Semester 5 | | **Hrs**
| | |
CM2160   Communications Essentials | 45
SD1710   Job Search Techniques | 15
PE2140   Digital Electronics (M, E) | 55
AV1510   Navigation Systems Installation (E) | 24
AV2180   Integrated Navigation Systems Installation (E) | 30
AS2415   Propellers and Systems (M, E) | 20
AS2410   Propellers and Systems (M) | 35
AF1280   Stress Skin Repair/Modification (M, E) | 25
AF1290   Non-Metallic Structures (M) | 12
AV3110   Monitoring and Digital Systems (E) | 55
GM1570   Corrosion Control (M, E, S) | 18
RW3140   Rotary Wing Aircraft (M) | 55
PT2240   Turbine Engine Systems (M) | 55

Semester 6 | | **Hrs**
| | |
RW3141   Rotary Wing Aircraft Systems (M) | 55
AV2310   Major Communications Radio Install (E) | 55
AV2510   Auto Flight Theory (M, E) | 25
AV2540   Auto Flight Ramp Testing (M) | 15
AV2570   Auto Flight Troubleshooting (E) | 15
PT2121   Reciprocating Engine Overhaul (M) | 55
TS1530   Standard First Aid | 14

This two-year Aircraft Maintenance Engineering Technician program offers training in the inspection, maintenance, and repair of aircraft and aircraft components. Some of the duties include:

- Perform aviation safety and airworthiness inspections
- Troubleshoot and repair fixed wing aircraft and helicopters
- Safely perform ground handling and routine inspections
- Perform power plant and structural repairs
- Troubleshoot and repair aircraft systems and avionics

ACCREDITATION

This program is accredited by Transport Canada as meeting the basic training requirements for the Aircraft Maintenance Engineer's license categories "M1", "M2" and "E". Transport Canada also grants qualified graduates a 21-month experience credit towards the 48 months required and credit for having completed the required knowledge exams. After successful completion of this program and the required work experience, apprentices qualify to write an exam in Aircraft Maintenance Regulations to acquire an Aircraft Maintenance Engineer's license.

OUTCOMES

1. Demonstrate safety practices in the aviation industry.
2. Demonstrate skills and knowledge required to work in the aircraft maintenance field.
3. Develop and strengthen the related knowledge and skill in subjects which complement and support the technical training.
4. Demonstrate positive attitudes and behavior that will enable me to become successful in the industry.
5. Meet the requirements for three Aircraft Maintenance Engineer licenses: M1-Small aircraft, M2- Large aircraft and E-Avionics

ENTRANCE REQUIREMENTS

Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School

High School Graduation Certificate with a 60% average in nine level 3000 credits, or equivalent, including Mathematics (4 credits) chosen from:
i. Advanced: 2200, 3200 (50% minimum in each course)
ii. Academic: 2201 (50% minimum), 3201 (60% minimum)

2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with MA1040 (Math Fundamentals 1) and MA1041 (Math Fundamentals II) OR clearing High School course deficiencies through Comprehensive Arts and Science (Transition) individual courses.

3. Adult Basic Education
Adult Basic Education (Level III) Graduation with a Degree and Technical Profile (or Business Related College Profile), including the following courses (or equivalent):
i. Mathematics: 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B and 3101C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile may be eligible for admission to the program provided the appropriate selection of courses, including those outlined above, have been completed.

4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Fixed wing airlines
- Helicopter operators
- Rotary commercial airlines
- Aircraft manufacturers
- Repair and overhaul companies
- Private operators
- Flying schools
- Government departments

Aircraft Structural Repair Technician

CERTIFICATE

• **One Year**
• **September**
• **Gander Campus**

COURSES

CODE	TITLE		Hrs
Semester 1			**Hrs**
MA1070	Structural Repair Shop Mathematics (M,E,S)		30
GM1550	Maintenance Regulations (M,E,S)		55
GM1120	General Maintenance Procedures (M,E,S)		30
GM1105	Aircraft Plumbing (S)		25
GM1140	Standard Workshop Practices (M,E,S)		55
AF1130	Aircraft Structures & Materials (M,E,S)		55
AF1240	Aircraft Structural Repair (M,E,S)		55
TS1550	WHMIS		6
AF1400	Specialized Processes and Fixtures (S)		60
AF2110	Aircraft Maintenance Fundamentals (S)		60
Semester 2			**Hrs**
EG1160	Technical Graphics (M,E,S)		60
SD1710	Job Search Techniques		15
AF1250	Aircraft Stress Skin Repair (S)		60
GM1570	Corrosion Control (M,E,S)		18
GM1580	Corrosion Control (S)		42
AF1270	Composite Materials (M,S)		55
AF1500	Windshields, Windows and Lenses (S)		49
GM1600	Structural Damage/Repair and Assembly (S)		72
AF1220	Aircraft Structures, Wood, Fabric, Tubular (S)		78
Semester 3			**Hrs**
AF1340	Advanced Composite Materials (S)		60
GM1525	Sheet Metal Fabrication (S)		120
TS1530	Standard First Aid		14

The Aircraft Structural Repair Technician is responsible for the assessment of damage, control of corrosion, repairs, modifications, and replacement of aircraft structures and structural components. Some of the duties include:

- Use specialized tools and equipment
- Employ recognized techniques for maintenance repair and fabrication
- Perform repairs using wood, fabric, sheet metal and composite materials

OUTCOMES

1. Develop techniques, standards and practices of structural repair that conforms to Transport Canada guidelines for the occupation.
2. Provide a broad overview of aircraft maintenance and repair functions with specific emphasis on safety practices in the industry.
3. Demonstrate safe work practices and personal protection.
4. Meet the requirements to become an Aircraft Maintenance Engineer category "S" - Structural Repair.

ACCREDITATION
This program is accredited by Transport Canada as meeting the basic training requirements for the Aircraft Maintenance Engineer's license category "S". Transport Canada also grants qualified graduates a 10-month experience credit towards the 36 months required and credit for having completed the required knowledge exams. After successful completion of this program and the required work experience, apprentices qualify to write an exam in Aircraft Maintenance Regulations to acquire an Aircraft Maintenance Engineer's license.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
 High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. **Mature Student Requirements**
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

• Aircraft repair stations
• Aircraft manufacturing facilities
• Composite fabricators
• Composite repair stations
• Helicopter service centers
• Helicopter overhaul facilities
• Regional and national airlines

AMET - Advanced Diploma (EASA)
ADVANCED DIPLOMA
• **15 Weeks**
• **September**
• **Gander Campus**

COURSES

CODE	TITLE	
Semester 1		**Hrs**
PH1030	Physics Refresher for EASA Module 2	60
CM1030	Essay Writing for EASA Exams	6
MA1150	Math Refresher for EASA Module 1	18
PE1220	EASA Module 3, 4, 5 Refresher	24
PE1230	EASA Module 5 Top Up	24
GM1340	EASA Module 6 Top Up	12
GM1350	EASA Module 7 (A) Top Up	24
GM1360	EASA Module 6, 7 (A), 8 Refresher	24
GM1230	Human Factors EASA Module 9	25
GM1700	Legislation EASA Module 10	35
AF1170	EASA Module 11 (A) Top Up	42
AF1180	EASA Module 11 (A) New Technologies	30
AF1190	EASA Module 11 (A) Refresher	24
PT1200	EASA Module 15 Top Up	54
PT1210	EASA Module 15, 17 (A) Refresher	24

This program is designed to provide a course of study that will prepare graduates for employment under the regulations for European Aviation Safety Agency (EASA) certification as an Aircraft Maintenance Engineer. Some of the duties of graduates include:

- Perform aviation safety and airworthiness inspections
- Troubleshoot and repair fixed wing aircraft and helicopters
- Safely perform ground handling and routine inspections
- Perform power plant and structural repairs
- Troubleshoot and repair aircraft systems and avionics

OUTCOMES
1. Prepare students for EASA certification exams
2. Strengthen exam and essay writing techniques
3. Review content in the Aircraft Maintenance Engineering Program
4. Practice exams for EASA certification
5. Complete EASA certification exams
6. Demonstrate safety practices in the aviation industry
7. Demonstrate skills and knowledge required to work in the aircraft maintenance field
8. Develop and strengthen the related knowledge and skill in subjects which complement and support the technical training
9. Demonstrate positive attitudes and behavior that will enable graduates to become successful in the industry

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet the following academic criteria:

1. AMET Diploma (2009-Present) CNA
Graduation from College of the North Atlantic Aircraft Maintenance Engineering Technician program 2009 to present

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:
- International aircraft servicing companies
- Aircraft servicing companies
- National aircraft companies
- Regional aircraft companies
- Aircraft refurbishing groups

Auto Body and Collision Technician

CERTIFICATE

• **34 Weeks**
• **September**
• **Prince Philip Drive Campus**

COURSES

CODE	TITLE	
Level 1	**Pre-Employment**	**Hrs**
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
AB1600	Trade Related Documents	12
AB1610	Safety	12
AB1620	Tools and Equipment	45
AB1630	Fasteners and Adhesives	12
AB1641	Vehicle Construction	16
AB1651	Pre/Post Repair Vehicle Inspection	12
AB1660	Metallurgy	30
AB1671	Cutting and Heating	30
AB1680	Gas Metal Arc Welding (GMAW [MIG])	45
AB1690	Resistance Spot Welding	15
AB1701	Metal Working I (Mild Steel)	55
AB1711	Body Fillers and Abrasives	40
AB1721	Corrosion Protection	40
AB1732	Surface Preparation (Cleaning, Stripping and Masking)	85
AB1750	Stationary Glass	30
AB1760	Moveable Glass and Hardware	30
AB1780	Cleaning and Detailing	30
AB1790	Upholstery, Trim and Hardware	30
AB1801	Refinishing I	75
AB1811	Batteries	10
AB1820	Primers, Surfaces and Sealers	40
AB2811	Non-Structural Components	60
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1241	Auto Body and Collision Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12
OT1220	Workplace Exposure	60

A certificate from College of the North Atlantic will be awarded upon successful completion of entry level courses.

APPRENTICESHIP
Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 4-5 years and would lead to Journeyperson status in the trade. For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2	**Advanced Level**	**Hrs**
AB2705	Metal Working II - Alternative Metals	45
AB2711	Electronic Fundamentals	75
AB2720	Position Arc Welding (GMAW)	30
AB2730	Restraints Systems	30
AB2740	Structural Components	60

Level 3	Advanced Level	Hrs
AB1741	Non-Metal Repair	60
AB2800	Refinishing II	75
AB2821	Electrical and Electronic Repairs	60
AB2830	Damage Analysis of Conventional- Frames and Unitized Bodies	45

Level 4	Advanced Level	Hrs
AB2901	Mechanical Systems and Components	68
AB2910	Steering Suspension and Braking Systems	75
AB2920	Unitized Body Repairs	30
AB2930	Conventional Frame Repair	30
AB2940	Damage Analysis and Estimating Costs	30
SV1110	Ozone Depletion	7

This red seal program is designed to assist you in developing sufficient basic skills and knowledge to enter the labor force as an apprentice Mechanic in Auto Body and Collision. Some of the duties include:

- Repair and replace vehicle structures and body parts
- Remove and install interior and exterior finishes
- Hammer out dents, buckles and other defects
- Operate soldering equipment and plastic filler
- Remove damaged fenders, panels and grills
- Weld replacement parts
- Straighten frames and underbodies
- File, grind, mask and tape body surfaces in preparation for painting

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Use tools and equipment.
3. Determine the type of paint; plan refinishing system; remove, prepare, seal and mask; apply coatings to vehicle.
4. Demonstrate correct use of chemicals within the shop environment.
5. Compute cost estimates for completing repairs.
6. Manage customer needs, complaints, questions and special challenges.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Body Shops
- Frame Shops
- Garages and Dealerships
- Service Stations

Automotive Service Technician

CERTIFICATE

- **35 Weeks**
- **September**
- **Bay St. George, Gander, and Prince Philip Drive Campuses**

COURSES

CODE	TITLE	Hrs
Level 1	**Pre-Employment**	
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
SV1105	Safety in the Shop	12
SV1165	Hand Tools	30
SV1177	Shop Tools & Equipment	24
SV1188	Fasteners, Tubing and Fittings	14
SV1158	Service Information Systems & Trade Related Documents	16
SV1217	Tire Wheels and Hubs	24
SV1552	Body Components, Accessories and Trim	20
SV1256	Suspension I	48
SV1228	Steering Systems	64
SV1642	Brake Systems I (Non-ABS)	60
SV1132	Introduction to Electrical and Electronic Principles	90
SV1377	Batteries	18
SV1287	Drive Shafts and Axle Shafts	30
SV1306	Engine Principles (Gasoline and Diesel)	90
SV1600	Ignition Systems	30
SV1387	Introduction to Starting Systems	30
SV1396	Introduction to Charging Systems	30
SV1311	Introduction to Cooling Systems	30
SV1197	Lubrication and Fluids Servicing	24
SV1691	Introduction to Accessory Drive Systems	18
SV1681	Preventative Maintenance Inspections (PMI)	24
SV1700	Hybrid Systems I	24
SV1125	Gaskets, Seals and Bearings	30
WD1301	Oxy-Fuel Welding/Cutting	30
SV1710	Gas Metal Arc Welding GMAW (MIG)	30
SV2282	Pre Delivery Inspection	18
AM1000	Introduction to Essentials Skills	9
AM1101	Math Essentials	42
AM1221	Automotive Service Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP

Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 4-5 years and would lead to Journeyperson status in the trade. For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2	Advanced Level	Hrs
AST-200	Cooling Systems	12
AST-205	Engine Lubrication Systems	12
AST-210	Accessory Drive Systems	12
AST-215	Engine Repair	42
AST-220	Starting Systems	12
AST-225	Charging Systems	12
AST-230	Lighting and Wiper Systems	18
AST-235	Steering Systems II	12
AST-240	Suspension Systems II	24
AST-245	Braking Systems II	24
AST-250	Manual Transmissions and Transaxles	36
AST-255	Clutches	6
AST-260	Final Drive Assemblies	18

Level 3	Advanced Level	Hrs
AST-300	Transfer Cases	24
AST-305	Gasoline Fuel Delivery and Injection Systems	24
AST-310	Gasoline Injection Systems	24
AST-315	Vehicle Networking Systems	60
AST-320	Gasoline Emission Control Systems	24
AST-325	Gasoline Intake and Exhaust Systems	18
AST-330	Electrical Options and Accessories	30
AST-335	Motor Vehicle Inspection	6

Level 4	Advanced Level	Hrs
AST-400	Mentoring	6
AST-405	Diesel Fuel Delivery and Injection Systems	18
AST-410	Diesel Emission and Control Systems	18
AST-415	Diesel Intake and Exhaust Systems	6
AST-420	Entertainment Systems	15
AST-425	Instrumentation and Information Displays	15
AST-430	Restraints Systems	24
AST-435	Automatic Transmissions and Transaxles	48
AST-440	Heating, Ventilation and Air Conditioning Systems	30
AST-445	Hybrid and Electric Vehicle Systems	30
AST-450	Program Review	30

This red seal program provides training in adjusting, testing and repairing engines, steering systems, braking systems, drive trains, vehicle suspensions, electrical systems and air conditioning systems, and do wheel alignments. Some of the duties include:

- Repair, rebuild and service specific parts
- Diagnose using testing equipment
- Dismantle and reassemble damaged parts
- Prepare scheduled maintenance
- Interact and advise customers

Note: This program may not be suitable for applicants who do not have normal color perception.

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Diagnose and repair engine systems.
3. Diagnose and repair engine support systems.
4. Diagnose and repair vehicle management systems.
5. Diagnose and repair drive line systems.
6. Diagnose and repair electrical systems and components.

ENTRANCE REQUIREMENTS

Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Garages
- Service Stations

Baking and Pastry Arts

CERTIFICATE

• **One Year**
• **September**
• **Bay St. George Campus**

COURSES

CODE	TITLE	
Semester 1		**Hrs**
TS1510	Occupational Health & Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
BA1000	Health and Safety	18
CK1107	Personal Hygiene and Kitchen Sanitation	10
BA1010	The Professional Baker	15
AM1101	Math Essentials	42
BA1015	Baker Tools and Equipment	15
BA1020	Weights and Measures	10
CK1130	Receiving and Storage	10
BA1025	Baking Methods and Principles	30
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
BA1030	Bread Products	60
BA1035	Cakes I	60
BA1040	Cookies	60
MA1095	Baking and Pastry Arts Math	30

	Semester 2	**Hrs**
BA1050	Artisan Breads	60
BA1055	Cakes II	60
BA1060	Pastry I	60
BA1065	Creams, Custards, Fillings and Dessert Sauces I	45
BA1070	Pastry II	45
BA1075	Creams, Custards, Fillings and Dessert Sauces II	30
BA1085	Laminate Dough	45
BA1095	Chocolate and Sugar	60
CM2161	Communication Essentials	36

Semester 3 Intersession		**Hrs**
BA1080	Dietary Baking	45
BA1100	Workplace Exposure Baking and Pastry Arts	90
AP1102	Introduction to Apprenticeship	12
BA1090	Frozen Desserts	45

This red seal eligible program gives you great hands on skills in both baking and pastry, including cakes, tortes, cookies, frozen and cream-based desserts. It provides the foundation for a career as a lead baker or pastry chef. The courses empower students by exploring baking and ingredient theory while gaining a greater understanding of the craft. This program will challenge your artistic side by expanding your capability in the design and creation of specialized baked goods. You will work in real bakery environments where you gain experience in production of baked goods consistent with industry standards. Some of the duties include:

- Weighing, measuring and mixing ingredients according to recipes
- Cutting and forming dough, prepare fillings
- Using ovens to bake products
- Decoration of baked goods
- Stock selection and rotation ingredients and supplies
- Developing support skills as an independent Baker
- Healthy Baking

PROGRAM OBJECTIVES

Upon successful completion of the Baking and Pastry Arts program, graduates will be able to:

1. Prepare yeast-raised products to include breads and yeast-leavened pastries to include laminated doughs, breakfast pastries and leavened cakes.
2. Prepare a variety of cakes, fillings and icings to include chemical and mechanical leavening techniques.
3. Prepare a variety of egg and dairy-based products, fried baked goods, and a variety of pastry products to include but not limited to meringue, fritters, and pies.
4. Identify, select and demonstrate the use of various chocolates and sugar and the common uses for the decoration processes.
5. List and explain the application of mixes and other convenience products pertaining to the baking process.
6. Describe and apply the principles of nutrition to maximize nutrient retention in baking preparation.
7. Apply communication, workplace, computer, and mathematic technical skills in simulated and real-world environments.
8. Complete the Competency and Task requirements for Baker National Occupational Analysis (NOA).

EMPLOYMENT OPPORTUNITIES

Graduates may find employment in the following areas:

- Specialty shops
- Hotels
- Restaurants
- Bakery manufactures
- Self employed

ENTRANCE REQUIREMENTS

Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School

High School Graduation

2. Adult Basic Education

Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:

i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103

3. Comprehensive Arts and Science (CAS) Trades

Comprehensive Arts and Science (Trades) Certificate

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program must be at least 19 years of age at the time of application and out of school for at least one (1) year to be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

Cabinetmaker

CERTIFICATE

• **31 Weeks**
• **September**
• **Port aux Basques Campus**

COURSES

CODE	TITLE	Hrs
Level 1	**Pre-Employment**	**Hrs**
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
AK1100	Blueprint I – Basic	75
AK1120	Blueprint II – Intermediate	60
AK1130	Construction Safety	40
AK1200	Hand Tools	45
AK1210	Fasteners and Adhesives	30
AK1220	Materials	45
AK1230	Portable Power Tools	45
AK1240	Common Stationary Equipment	60
AK1250	Joint Fabrication and Assembly	45
AK1260	Laminating	45
AK1290	Basic Casework	75
AK1301	Wood Finishing I	80
AK1320	Industry Codes and Practices	45
AK1330	Installation Procedures	45
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1121	Cabinetmaker Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP

Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 3-4 years and would lead to Journeyperson status in the trade.

For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2	Advanced Level	Hrs
AK1270	Specialty Stationary Equipment	60
AK1302	Wood Finishing II	50
AK1310	Stairs	90
AK2100	Blueprint III (Advanced)	40

Level 3	Advanced Level	Hrs
AK1282	High Production Equipment	60
AK2102	Blueprint IV (CAD)	60
AK2202	Advanced Casework and Design	120

This red seal program offers training in building and repairing custom or production-type fixtures and furniture made of wood or wood substitutes. Some of the duties include:

- Read specifications and drawings
- Create layouts and patterns
- Set up and operate woodworking equipment
- Cut, shape, mould and assemble components made of wood or wood substitutes
- Sand, stain, polish and apply veneers

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Use tools and equipment safely.
3. Interpret engineering drawings.
4. Machine components using automated equipment.
5. Plan sequence of operations.
6. Prepare layout operations.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
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Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Furniture manufacturers
- Cabinet making shop
- Interior finishing firms
- Residential developers

Carpenter

CERTIFICATE

• **36 Weeks**
• **September**
• **Carbonear, and Clarenville Campuses**

COURSES

CODE	TITLE	
Level 1	**Pre-Employment**	**Hrs**
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
AJ1111	Carpentry Fundamentals	74
AJ1121	Rigging	30
AJ1160	Blueprint Reading	45
AJ1170	Residential Estimating	30
AJ1201	Layout & Footings	80
AJ1211	Wall Forms	80
AJ1221	Floor and Wall Framing	90
AJ1231	Exterior Finish	60
AJ1310	Roof Fundamentals	80
AJ1410	Interior Fundamentals	60
AJ1501	Interior Trim	60
AJ1601	Stair Fundamentals	60
AJ1760	Chain Saw Safety	4
AJ2420	Post and Beam	30
AJ2430	Scaffolding	45
HE1620	Powerline Hazards	4
LA1100	Confined Space Awareness	6
LA1110	Fall Protection Awareness	6
CAR155	Concrete	12
CAR225	Deck Layout and Framing	9
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1131	Carpenter Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP

Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 4-5 years and would lead to Journeyperson status in the trade.
For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2	**Advanced Level**	**Hrs**
CAR-200	Building Science Principles	9
CAR-205	Building Envelope	6
CAR-170	Exterior Wall and Partition Layout and Framing	36
CAR-250	Preserved Wood Foundations	3
CAR-330	Exterior Wall Covering Systems	36
CAR-230	Introduction to Roof and Ceiling Layout and Framing	6
CAR-235	Gable Roof Layout and Framing	30

CAR-240	Roof Coverings	24
CAR-605	Exterior Windows	18
CAR-325	Exterior Doors	18
CAR-245	Straight Stairs	30
CAR-210	Advanced Site Layout	24

Level 3 Advanced Level   **Hrs**

CAR-400	Stair Form	21
CAR-610	Excavation, Shoring and Underpinning	3
CAR-415	Pre-Cast Concrete	6
CAR-420	Suspended Slab and Beam Forms	21
CAR-615	Column and Vertical Forms	21
CAR-305	Hip Roof Layout and Framing	30
CAR-310	Equal Slope Intersecting Roof Layout and Framing	30
CAR-405	Interior Wall Systems	15
CAR-410	Ceilings	15
CAR-620	Interior Doors and Windows	15
CAR-340	Interior Trim	18
CAR-315	Fixtures and Hardware	3
CAR-345	Cabinets, Countertops and Built-in Units	12

Level 4 Advanced Level   **Hrs**

CAR-445	Project Planning	27
CAR-300	Building Science Practices	15
CAR-425	Special Roof Layout and Framing	24
CAR-435	Unequal Slope Roof Layout and Framing	33
CAR-625	Finish and Geometric Stairs	45
CAR-350	Flooring and Floorcoverings	15
CAR-630	Panels, Tiles and Solid Wood Finished Installation	6
CAR-450	Renovation	15
CAR-635	Program Review	30

This red seal program offers training in the use of hand and power tools in residential and commercial construction in accordance to National Building Codes. Some of the duties include:

- Read and interpret blueprints, drawings and sketches
- Calculate requirements and specifications
- Prepare layouts
- Use measuring tools
- Cut, shape and assemble and join materials
- Build and install foundations, floor beams, subfloors, walls and roof systems
- Install doors, stairs, moldings and hardware trims
- Operate hand and portable power tools
- Utilize various construction products
- Complete construction projects for stairs, concrete, floors, walls and roofs

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Use tools and equipment safely.
3. Interpret drawings and specifications.
4. Solve problems and keep a construction project on schedule.
5. Use various types of scaffolding.
6. Apply National Building Code standards and energy efficient concepts

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
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Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment on the following areas:

- General contractor
- Custom woodworking shops
- Building suppliers
- Residential and commercial construction
- Industrial Maintenance

INDUSTRIAL TRADES

Commercial Driver

CERTIFICATE
- **13 Weeks**
- **September**
- **Bay St. George Campus**

COURSES

CODE	TITLE	Hrs
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
DV1100	Commercial Driver Essential Skills	18
DV1110	Commercial Driver Orientation	6
DV1120	Codes and Regulations	12
DV1130	Vehicle Operation Safety	12
DV1140	Logbook (Hours of Service)	11
DV1210	Trip Planning	12
DV1230	Engine and Drivetrain Principles	6
DV1240	Tires, Rims and Wheels	6
DV1260	Trailer Coupling	6
DV1270	Tractor Trailer Operation-In the Yard	85
DV1280	Tractor Trailer Operation-On the Road	135
DV1290	Preventative Maintenance	4
DV1300	Trailers	4
DV1310	Safe Load and Securement	12
DV1320	Driver Health and Nutrition	4
DV1330	Professional Driver Improvement for Commercial Drivers	6
HE1600	Air Brakes	15
HE1620	Powerline Hazards	4
HE1630	Transportation of Dangerous Goods	6

This program offers training in the safe and effective operation of Tandem trucks and Tractor Trailer units. Some of the duties include:

- Perform preventive maintenance, defensive driving, and fuel conservation
- Deliver cargo and materials
- Interpret and communicate instructions through dispatch
- Maintain a truck log and keep records of transported materials
- Clean, inspect and service vehicle
- Perform trailer operations and demonstrate defensive driving skills
- Perform pre, post and on route inspections

The program also offers certification in the Transportation of Dangerous Goods (TDG), Air Brakes (9A), WHMIS, First Aid, Powerline Hazards and Professional Driver Improvement Course (PDIC). There will be classroom, yard, off and on and highway training with low student to instructor ratios.

Students successfully completing the program qualify for a Class 1 license with Class 3 and 9A endorsements.

OUTCOMES

1. Demonstrate defensive driving techniques, proper economical vehicle operation, and emergency procedures.
2. Demonstrate knowledge of types of trucks, power trains, engines, drive lines, brake systems, tires and trailers.
3. Demonstrate techniques to drive on course roads, through town and on the Trans Canada Highway.
4. Demonstrate knowledge of proper freight handling procedures and methods of preparing and handling documentation connected with transfers of cargo and monies.
5. Demonstrate safe work practices and personal protection.

ENTRANCE REQUIREMENTS

Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. **High School**
High School Graduation
2. **Adult Basic Education**
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. **Comprehensive Arts and Science (CAS) Trades**
Comprehensive Arts and Science (Trades) Certificate
4. **Mature Student Requirements**
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. **Driver's License and Medical**
i. Hold a valid Newfoundland and Labrador Class 5 driver's license.
ii. You must have one (1) year as an unrestricted Class 5 driver's license before you can apply for a commercial class driver's permit.
iii. Upon entrance to the program you will be required to submit a completed medical form, you also must take a written commercial and sign test along with a vision test.
iv. Provide a current statement of Driving Abstract record showing no more than 4 demerit points.
6. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Trucking companies
- Manufacturing and distribution companies
- Retail outlets
- Moving companies

Construction / Industrial Electrician

CERTIFICATE

• **37 Weeks**
• **September**
• **Burin, Carbonear, Corner Brook, Happy Valley-Goose Bay, Labrador West, and Seal Cove Campuses**

COURSES

CODE TITLE

Level 1	Pre-Employment	Hrs
TS1520	WHMIS	6
TS1530	Standard First Aid	14
ER1101	Hoisting, Lifting and Rigging	18
ER1105	Access Equipment	12
ER1112	Tools and Equipment	15
ER1140	DC Theory	30
ER1151	Series and Parallel DC Circuits	45
ER1161	Introduction to the Canadian Electrical Code	24
ER1170	Voltage Drop & Power Loss	30
ER1180	Single Phase Theory	60
ER1190	Three Phase Theory	30
ER1202	Drawings, Schematics & Specifications	30
ER1212	Electrical Drawings and Schematics	30
ER1221	Conduit, Tubing and Fittings	30
ER1231	Conductors and Cables	30
ER1242	Fundamental Wiring	60
ER1250	Protective Devices	30
ER1262	Transformers	60
ER1271	Single Phase Service Entrance	30
ER1281	Three Phase Service Entrance	30
ER1341	Fire Alarms	20
ER1371	Distribution Equipment	17
ER1411	Safety	30
ER1570	Grounding and Bonding	6
ER1580	Job Planning	6
ER1590	Introduction to Communication and Trade Documentation	6
ER2001	Raceways, Wireways and Busways	30
ER2011	Lighting Systems and Controls	25
ER2022	Single-Phase Motors	30
ER2134	Communication Systems	20
ER2142	Security Systems	10
ER2351	Electric Surface Heating Systems	15
ER2391	Fiber Optics	18
ELE120	Support Components	6
ELE130	Mentoring I	6
OT1150	Work Term	80
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1161	Electrician Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP

Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 4-5 years and would lead to Journeyperson status in the trade.

For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2 Advanced Level (Construction/Industrial) | **Hrs**
ELE-220	Job Planning	6
ELE-225	Voltage Drop and Power Loss	30
ELE-230	Environmental and Hazardous Installations	24
ELE-235	DC Generating Systems	12
ELE-240	Single-Phase AC Circuits II	27
ELE-245	Protective Devices	24
ELE-250	Extra-Low Voltage Transformers	6
ELE-255	Low-Voltage Single-Phase Transformers	12
ELE-260	Renewable Energy and Storage Systems I	9
ELE-265	Exit and Emergency Lighting Systems	12
ELE-270	Heating, Ventilation and Air-Conditioning Systems	18
ELE-275	Heating, Ventilation and Air-Conditioning System Controls	12
ELE-280	Electric Heating Systems	12
ELE-285	Electric Heating System Controls	12
ELE-290	Cathodic Protection Systems	6
ELE-295	DC Motors	12
ELE-300	Motor Starters I	6
ELE-305	Motor Control Devices I	12
ELE-310	Drawings, Schematics and Specifications II	12
ELE-315	Lighting Protection Systems	6

Level 3 Advanced Level (Construction/Industrial) | **Hrs**
ELE-320	Three-Phase Theory	30
ELE-325	Ground Fault Detection Systems I	12
ELE-330	Three-Phase Services	12
ELE-335	Three-Phase Power Distribution Equipment	18
ELE-340	AC Generating Systems	18
ELE-345	Low-Voltage Three-Phase Transformers	18
ELE-350	High Voltage Transformers	12
ELE-355	Motor Starters II	18
ELE-360	Motor Control Devices II	24
ELE-365	Single-Phase Motors I	18
ELE-370	Three-Phase Motors I	18
ELE-375	DC Motors II	12
ELE-380	AC Drives	18
ELE-385	DC Drives	12

Level 4 Advanced Level (Construction) | **Hrs**
CEL-400	Mentoring II	3
CEL-405	Grounding and Bonding Systems II	6
CEL-410	Power Conditioning, UPS and Surge Suppression Systems	15
CEL-415	High Voltage Equipment	12
CEL-420	High Voltage Cables	12
CEL-425	Renewable Energy and Storage Systems II	12
CEL-430	Lighting Standards	6
CEL-435	Airport Runway Lighting Systems and Controls	6
CEL-440	Traffic Signal Lights and Controls	6
CEL-445	Single-Phase Motors II	6
CEL-450	Three-Phase Motors II	6
CEL-455	DC Motors III	6
CEL-460	Commissioning and Decommissioning Systems	12
CEL-465	Automated Control Systems	30
CEL-470	Fire Alarm Systems	12
CEL-475	Security and Surveillance Systems	6
CEL-480	Communication Systems	6
CEL-485	Communication Systems Public Address and Intercom	3
CEL-490	Communication Systems (Nurse Call Systems)	3
CEL-495	Building Automation and Control Systems	12
CEL-500	Program Review	30

Level 4 Advanced Level (Industrial)   **Hrs**
IEL-400   Mentoring II   3
IEL-405   Ground Fault Detection Systems II   3
IEL-410   Power Conditioning, UPS and Surge Suppression Systems   18
IEL-415   High Voltage Equipment   18
IEL-420   High Voltage Cables   12
IEL-425   Renewable Energy and Storage Systems II   12
IEL-430   Single-Phase Motors II   6
IEL-435   DC Motors III   6
IEL-440   Three-Phase Motors II   6
IEL-445   Commissions and Decommissions Systems   18
IEL-450   Fire Alarm Systems   12
IEL-455   Security and Surveillance Systems   12
IEL-460   Communication Systems   6
IEL-465   Communication Systems (Public Address/Intercom)   6
IEL-470   Communication Systems (Nurse Call Systems)   6
IEL-475   Building Automation and Control Systems   12
IEL-480   Predictive/Preventative Maintenance   12
IEL-485   Automated Control Systems   60
IEL-490   Pneumatic Control Systems   18
IEL-495   Hydraulic Circuits and Control Systems   12
IEL-500   Discrete and Analog Devices   24
IEL-505   Process Control   30
IEL-510   Environmental Control Systems   18
IEL-515   Program Review   30

This red seal program offers training in how to install, alter and maintain electrical systems that are designed to provide heat, light, power, control, signals or fire alarms for all types of buildings and structures. Some of the duties include:

- Read and interpret electrical, mechanical and architectural drawings
- Determine code specifications for writing layouts
- Cut, thread, bend, assemble and install conduits
- Position, maintain and install distribution and control equipment
- Safely test circuits to ensure integrity

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Use and maintain tools and equipment.
3. Analyze electrical theory and its application to lighting, power and control equipment.
4. Interpret instructions given in plans and specifications pertaining to electrical installations.
5. Demonstrate problem solving skills involving electrical systems.
6. Conduct trouble shooting to maintain electrical systems and equipment.

Note: This program may not be suitable for applicants who do not have normal color perception.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. **High School**
High School Graduation
2. **Adult Basic Education**
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. **Comprehensive Arts and Science (CAS) Trades**
Comprehensive Arts and Science (Trades) Certificate

4. **Mature Student Requirements**

Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5**. International Applicants – English Proficiency**

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES

Graduates may find employment in the following areas:

- Residential electrical companies
- Industrial electrical companies
- Mining
- Pulp and Paper
- Oil and gas

INDUSTRIAL TRADES

Cook
CERTIFICATE
• **34 Weeks**
• **September**
• **Bay St. George, Burin, and Prince Philip Drive Campuses**

COURSES

CODE	TITLE	
Level 1 Pre-Employment		**Hrs**
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
CK1000	The Professional Cook	15
CK1050	Food Presentation	12
CK1101	Health and Safety	18
CK1107	Personal Hygiene and Kitchen Sanitation	10
CK1115	Kitchen Tools and Equipment	10
CK1120	Weights and Measures	10
CK1126	Basic Cooking Methods and Principles	30
CK1130	Receiving and Storage	10
CK1147	Pulses, Grains and Nuts	18
CK1150	Pastas and Dumplings	10
CK1156	Stocks and Glazes	24
CK1165	Soups	30
CK1177	Principles of Meat Cooking and Handling	30
CK1178	Poultry	60
CK1188	Seafood	30
CK1195	Salad and Salad Dressings	35
CK1204	Sandwiches	20
CK1210	Dairy Products	30
CK1226	Breakfast Cookery and Eggs	30
CK1231	Introduction to Baking	18
CK1237	Bread Products	24
CK1241	Pies, Tarts, Flans and Fillings	30
CK1254	Basic Cakes and Quick Breads	30
CK1256	Cookies	20
CK1290	Fish	30
CK1310	Vegetables and Fungi	30
CK1320	Fruits	12
CK1340	Potatoes	30
CK1350	Sauces	30
CK1450	Beef and Pork	60
OT1230	Workplace Exposure	60
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1151	Cook Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP
Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 3-4 years and would lead to Journeyperson status in the trade.
For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2 Advanced Level   **Hrs**
COO-200 Stocks and Soups   30
COO-205 Thickening and Binding Agents   3
COO-210 Sauces   24
COO-215 Meat Cutting and Processing   12
COO-217 Meat Cookery   12
COO-220 Poultry Cutting and Processing   9
COO-223 Poultry Cookery   6
COO-225 Fish   15
COO-230 Seafood   15
COO-235 Condiments and Accompaniments   3
COO-240 Pastries   9
COO-245 Cookies   3
COO-250 Pies, Tarts, Flans and Fillings   9

Level 3 Advanced Level   **Hrs**
COO-300 Charcuterie   24
COO-305 Aspics, Jellies and Glazes   3
COO-310 Marinades, Rubs and Brines   3
COO-315 Game Cutting and Processing   6
COO-317 Game Cookery   9
COO-320 Hors D'oeuvres   3
COO-325 Cakes and Tortes   12
COO-330 Icings, Glazes, Meringues and Dessert Sauces   6
COO-335 Creams and Custards   12
COO-340 Frozen Desserts   6
COO-345 Chocolate   6
COO-350 Nutrition   6
COO-355 Cost Controls   12
COO-360 Menu Planning   12
COO-365 Review   30

This red seal program provides training in the preparation and presentation of a variety of food for a variety of groups. Some of the duties include:

- Estimate food requirements using menus
- Retrieve food from storage and suppliers
- Wash, peel and cut vegetables
- Prepare, season and cook foods
- Evaluate nutritional values and sanitation standards

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Develop menus.
3. Practice and maintain sanitary standards.
4. Develop production procedures.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103

3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Hotels
- Restaurants
- Catering firms
- Cafeterias
- Health care institutions
- Specialty food outlets
- Work camps

Hairstylist

CERTIFICATE

- **37 Weeks**
- **September**
- **Bay St. George, and Gander Campuses**

COURSES

CODE	TITLE	Hrs
Level 1	**Pre-employment**	
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
HT1000	Safety-Related and Hygienic Functions	12
HT1010	Tools and Equipment	9
HT1020	Client Service Preparation	12
HT1030	Communication Techniques	6
HT1040	Front Desk	18
HT1050	Business Fundamentals I	12
HT1130	Hair and Scalp Analysis and Response	30
HT1140	Shampoo and Condition Hair	6
HT1230	Wet Hair Styling I	18
HT2230	Wet Hair Styling II	18
HT1240	Dry Hair Finishing and Styling I	24
HT2240	Dry Hair Finishing and Styling II	30
HT1305	Hair Cutting	202
HT1325	Facial and Nape Hair Services	24
HT1505	Colouring	150
HT1535	Lightening	90
HT2250	Chemical Waving	42
HT2260	Chemical Relaxing	18
HT2270	Colour Correction	60
HT2280	Extensions, Wigs and Hairpieces	12
HT2290	Face and Nape Services	3
HT2295	Mentoring Techniques	6
HT2050	Business Fundamentals II	12
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1380	Hairstylist Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12
OJ1500	Workplace Exposure	90

This red seal program offers training in how to cut and style hair to suit their clients face and lifestyle. Some of the duties include:

- Cut, trim, color, wave and style hair, wigs and hairpieces
- Shave, trim and shape beards and moustaches
- Suggest appropriate hairstyles
- Maintain supplies and equipment
- Self-educate on new hairstyles and fashions

Note: This program may not be suitable for persons with allergies and/or respiratory problems. Anyone with either of these conditions should check with a doctor to determine medical suitability.

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Use and maintain tools and equipment.
3. Demonstrate the skills required to style, cut and color hair.
4. Prepare clients for services.
5. Perform reception duties.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Hair salons
- Hair shows
- Sales representative

Heavy Duty Equipment Technician/Truck and Transport Mechanic

CERTIFICATE
- **37 Weeks**
- **September**
- **Bay St. George, Happy Valley-Goose Bay, and Placentia Campuses**

COURSES

CODE	TITLE	Hrs
Level 1	**Pre-Employment**	
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
SV1101	Safety	30
SV1111	Ozone Depleting Substances	6
SV1121	Gaskets and Seals	5
SV1131	Electrical and Electronic Principles	55
SV1141	Introduction to Hydraulics	30
SV1151	Service Information Systems	25
SV1166	Tools and Equipment	30
SV1191	Fasteners, Tubings, Hoses and Fittings	30
SV1190	Lubrication and Fluid Servicing	30
SV1201	Start, Move and Park Vehicle	5
SV1211	Tires, Rims and Wheels	25
SV1249	Introduction to Suspension Systems	15
SV1261	Vehicle Hydraulic Brake Systems	60
SV1271	Basic Air Brake Systems	60
SV1281	Drive Lines	25
SV1301	Cutting, Heating and Welding	30
SV1303	Engine Principles	45
SV1310	Cooling Systems	30
SV1331	Intake and Exhaust Systems	25
SV1361	Diesel Fuel Supply Systems	25
SV1370	Batteries	15
SV1379	Introduction to Starting and Charging Systems	18
SV1401	Gauges	11
SV1451	Steering Systems	30
SV1452	Gears	12
SV1491	Conventional Lighting Circuits	15
SV1501	Wiring Harnesses and Accessories	15
SV1800	Hoisting and Lifting	15
SV1810	Preventative Maintenance	5
SV1820	Bearings	6
SV1830	Metallurgy	5
SV2299	Introduction to Track Type Undercarriages	15
SV2391	Reservoirs, Coolers and Filters	15
SV2491	Pneumatic Systems	20
SV2661	Electronic Ignition Systems	30
SV2669	Introduction to Heating, Ventilation and Air Conditioning HVAC	15
SV2689	Introduction to Frames and Chassis	6
SV2731	Cab Components	9
SV2779	Introduction to Hitches and Couplers	6
WD2290	Shielded Metal Arc Welding	15
WD2330	MIG Welding	30
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1370	Heavy Duty and Truck Transport Math Fundamentals	42
CM2161	Communications Essentials	36

SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP

Upon completion of the pre-employment level certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" in Heavy Duty Equipment Technician or Truck and Transport Mechanic. This is obtained by completing the following Advanced Level training and required work experience. The apprenticeship may take 5-6 years and would lead to Journeyperson status in the trade.

For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

CODE	TITLE	
Level 2 Advanced Level (HDET)		**Hrs**
HET-200	Hydraulic Pumps and Motors	15
HET-205	Hydraulic Cylinders	12
HET-210	Control Valves	21
HET-215	Accumulators	6
HET-220	Hydraulic Brakes Systems II	12
HET-225	Hydraulic Systems Diagnostics and Testing	21
HET-230	Front and Rear Suspensions	12
HET-235	Track-Type Undercarriage	15
HET-240	Hydrostatic Drives	6
HET-245	Final Drives	6
HET-250	Hydraulic Steering Systems	9
HET-255	Tracked Steering Systems	15
HET-260	Cabs and Protective Structures	6
HET-265	Fire Suppression Units	3
HET-270	Pneumatic Systems	3
HET-275	Blades, Buckets and Cutting Edges	6
HET-280	Winches, Wire Ropes and Accessories	9
HET-285	Equipment Attachments	6
HET-290	Frames and Structures	18
HET-295	Material Handling Equipment	9

CODE	TITLE	
Level 2 Advanced Level (TTM)		**Hrs**
TTM-200	Front Axles and Suspension Systems	9
TTM-205	Rear Axles and Suspension Systems	18
TTM-210	Wheel and Axle Alignment	12
TTM-215	Frames and Chassis	9
TTM-220	Power Assisted Steering	12
TTM-225	Dual Air Brake Systems	30
TTM-230	Anti-lock Braking and Traction Control Systems	21
TTM-235	Cab Components	9
TTM-240	Trailer Coupling Devices	12
TTM-245	Truck Bodies and Trailers	12
TTM-250	Provincial Motor Vehicle Inspection (MVI)	6
TTM-255	Hydraulic Pumps	12
TTM-260	Hydraulic Cylinders	6
TTM-265	Hydraulic Control Valves	6
TTM-270	Accumulators	3

CODE	TITLE	
Level 3 Advanced Level (HDET & TTM)		**Hrs**
CHT-300	Cooling Systems	6
CHT-305	Engine Lubrication Systems	9
CHT-310	Drivelines	6
CHT-315	Drive Axle Assemblies	18
CHT-320	Engine Clutches	18
CHT-325	Diesel Fuel Supply Systems	6
CHT-330	Starting Systems	15
CHT-335	Starting Aids	6

CHT-340	Charging Systems	15
CHT-345	Electronic Ignition Systems	6
CHT-350	Non-Diesel Fuel Systems	30
CHT-355	Manual Transmissions	18
CHT-360	Pump Drives/Power Take Offs	6
CHT-365	Transfer Cases	6
CHT-370	Automatic/Power Shift and CVT Transmissions	36
CHT-375	Torque Converters	9

CODE	TITLE	
Level 4 Advanced Level (HDET & TTM)		Hrs
CHT-400	Base Engine Diagnostics	12
CHT-405	Diesel Fuel Injection Systems	24
CHT-410	Electronically-Controlled Diesel Fuel Injection Systems	27
CHT-415	Intake and Exhaust Systems	12
CHT-420	Emission Control Systems	27
CHT-425	Engine Brakes and Retarders	12
CHT-430	Diesel Engine Overhaul	30
CHT-435	Gauges and Instrumentation	6
CHT-440	Vehicle Management Systems	30
CHT-445	Air Conditioning Systems	18
CHT-450	Heating and Ventilation Systems	6
CHT-455	Mentoring	6
CHT-460	Program Review	30

This red seal program is designed to provide you with the skills and knowledge required for employment in the field of Heavy Duty Equipment Technician/Truck and Transport Mechanic. Some of the duties include:

- Interpret work orders and technical manuals
- Maintain, clean and lubricate equipment
- Diagnose faults and malfunctions
- Adjust, repair or replace defective parts
- Performance test repaired equipment
- Follow manufactures specifications and legislated regulations

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Use and maintain tools and equipment.
3. Diagnose and repair engines and engine support systems.
4. Diagnose and repair steering, suspension and brake systems.
5. Diagnose and repair hydraulic and pneumatic systems.
6. Write service reports and record analysis

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years of age or older, and have been out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Repair shops
- Maintenance companies
- Transportation companies
- Construction companies

Heavy Equipment Operator

CERTIFICATE
- **22 Weeks**
- **September / October**
- **Bay St. George, Bonavista, Placentia, and St. Anthony Campuses**

COURSES

CODE	TITLE	
Level 1	**Pre-Employment**	**Hrs**
TS1520	WHMIS	6
TS1530	Standard First Aid	14
HE1110	Safety	12
HE1102	Equipment Operation Safety	15
HE1130	Heavy Equipment Certification Requirements	6
HE1601	Air Brakes	15
HE1140	Tools and Equipment	4
HE1160	Hoisting and Rigging	19
HE1170	Survey Indicators	9
HE1121	Slopes and Grades	9
HE1180	Methods of Approach for Worksite Job Planning	4
HE1190	Trade Related Documents	12
HE1210	Drawings and Plans	4
HE1220	Soil Fundamentals	4
HE1202	Scheduled and Preventative Maintenance	45
HE1230	Pre- and Post-Operational Inspections	12
HE1240	Troubleshooting and Basic Repairs	8
HE1250	Transportation of Equipment	10
HE1260	Environmental Protection	8
HE1611	Introduction to Professional Driver Improvement (PDIC)	6
HE1621	Powerline Hazards	6
HE1631	Transportation of Dangerous Goods	6
OL1605	Traffic Control Person	6
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1171	Heavy Equipment Operator Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

Three courses from the following:		**Hrs**
HE1502	Dozer	80
HE1512	Grader	80
HE1522	Tractor Loader Backhoe (TLB)	80
HE1532	Front End Loader	80
HE1542	Tandem Dump Truck	80
HE1552	Off-Highway Dump Truck	80
HE1562	Excavator	80

This program provides training in the safe and effective operation of Heavy Duty Earth Moving Equipment. Some of the duties include:

- Explore the operation of heavy equipment
- Perform preventative maintenance
- Develop skills necessary to become proficient in the use of the following heavy equipment

EQUIPMENT CATEGORIES
Dozer
Front End Loader
Grader
Tandem Dump Truck
Off-Highway Dump Truck
Tractor-Loader-Backhoe (TLB)
Excavator

OUTCOMES

1. Demonstrate knowledge of machine capabilities and industry expectations.
2. Develop servicing procedures and techniques to maximize the life span of construction equipment.
3. Demonstrate skills in basic machine maneuvering, control and operation in work simulated projects.
4. Demonstrate knowledge of standards for road construction as well as other municipal projects.
5. Demonstrate safe work practices and personal protection.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. Driver's License and Medical (Dump Truck-Tandem ONLY)
Students selecting the Equipment Category – Dump Truck (Tandem)
i. Hold a valid Newfoundland and Labrador Class 5 driver's license.
ii. You must have one (1) year as an unrestricted Class 5 driver's license before you can apply for a commercial class driver's permit.
iii. Upon entrance to the program you will be required to submit a completed medical form, you also must take a written commercial and sign test along with a vision test.
6. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:
- General contractors
- Paving companies
- Pipeline companies
- Logging
- Mining
- Landscaping

Industrial Mechanic (Millwright)

CERTIFICATE

• **37 Weeks**
• **September**
• **Corner Brook, Labrador West, and Placentia Campuses**

COURSES

CODE	TITLE	Hrs
Level 1 Pre-Employment		
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
MS1230	Hand Tools	20
MW1240	Portable Power Tools	20
MW1251	Blueprint Reading and Sketching	15
MW1261	Equipment Assembly Blueprints	15
MW1270	Mechanical Installation Blueprints	15
MW1281	Schematics Advanced	15
MW1291	Rigging	30
MW1450	Drills, Taps and Reamers	30
MW1461	Measuring and Layout	54
MW1621	Metal Lathe	60
MW1630	Milling Machines	40
MW1470	Piping Components	30
MW1511	Power Metal Saws	15
MW1521	Pedestal Grinders	15
MW1530	Bearings	40
MW1541	Fasteners	9
MW1550	Metallurgy	30
MW1580	Static and Dynamic Seals	30
MW1591	Couplings and Clutches	20
MW1360	Shafts and Shaft Alignment	20
MW1610	Belt and Chain Drive Systems	45
MW1640	Gear Drive Systems	50
MW1650	Lubrication Practices	20
MW1670	Non-positive Displacement Pumps	40
MW1690	Positive Displacement Pumps	50
MW1730	Electrical Fundamentals	30
MW2150	Hydraulics I	30
WD1330	Oxy-Fuel Welding	30
MW2122	Plasma Arc Cutting	6
OT1150	Workplace Exposure	80
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1181	Industrial Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP

Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 4-5 years and would lead to Journeyperson status in the trade. For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2 Advanced Level   **Hrs**
IMM-200   Shafts, Bearings and Seals   30
IMM-205   Couplings, Clutches and Brakes   30
IMM-210   Chain and Belt Drive Systems   30
IMM-215   Gear Systems   30
IMM-220   Shaft Alignment I   30
IMM-225   Shielded Metal Arc Welding (SMAW)   20
IMM-230   Gas Metal Arc Welding (GMAW)   20
IMM-235   Gas Tungsten Arc Welding (GTAW)   20

Level 3 Advanced Level   **Hrs**
IMM-300   Shaft Alignment II   24
IMM-305   Fans and Blowers   24
IMM-310   Pumps   24
IMM-315   Compressors   24
IMM-320   Process Piping   30
IMM-325   Process Tanks and Containers   12
IMM-330   Hydraulic Systems   54
IMM-335   Pneumatic and Vacuum Systems   18

Level 4 Advanced Level   **Hrs**
IMM-400   Prime Movers   30
IMM-405   Conveying Systems   30
IMM-410   Preventive and Predictive Maintenance   18
IMM-415   Vibration Analysis   15
IMM-420   Balancing   15
IMM-425   Non-destructive Testing   12
IMM-430   Fluid Analysis   12
IMM-435   Commissioning and Decommissioning   6
IMM-440   Robotics and Automated Equipment   6
IMM-445   Mentoring   6
IMM-450   Program Review   30

This red seal program offers the training required to become a mechanic for stationary industrial machinery. Some of the duties include:

- Read and interpret diagram, schematics and service manuals
- Operate rigging equipment and dollies to move equipment
- Fit, align, attach and connect: bearings, gears, shafts, motors, couplings and belts
- Test, align and adjust equipment
- Perform predictive and operational maintenance
- Employ vibration analysis
- Service and repair hydraulic, pneumatic and programmable logic controls
- Perform tack welds

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Use and maintain tools and equipment.
3. Interpret drawings, plans, and be able to layout and develop projects according to specifications.
4. Perform assigned tasks following quality and production standards required in industry.
5. Plan for installation and maintenance of components and systems.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Mining
- Forestry
- Oil and gas
- Private companies
- Manufacturing
- Government maintenance departments

INDUSTRIAL TRADES

Instrumentation and Control Technician

CERTIFICATE
- **34 Weeks**
- **September**
- **Gander, and Seal Cove Campuses**

COURSES

CODE	TITLE		
Level 1 Pre-Employment		**Hrs**	
TS1510	Occupational Health and Safety	6	
TS1520	WHMIS	6	
TS1530	Standard First Aid	14	
ER1111	Tools and Equipment	45	
ER1140	DC Theory	30	
ER1151	Series and Parallel DC Circuits	45	
ER1170	Voltage Drop and Power Loss	30	
ER1390	Safety	30	
ER1201	Drawings, Schematics and Specifications	30	
ER1420	Introduction to Pressure Measurement and Calibration	70	
ER1430	Flow Measurement	110	
ER1440	Level and Density Measurement	50	
ER1450	Temperature Measurement	60	
ER1460	Wireways, Conduit, Electrical Metallic Tubing (EMT) and Fittings	15	
ER1490	Material Handling Equipment	15	
ER1500	Communication and Trade Documentation	9	
ER1510	Conductors and Cables	30	
ER1520	Tubing and Piping Systems	30	
ER1530	Introduction to Fluids	25	
ER1711	Signal Transmission Systems	30	
ER1733	Electronics (Circuits and Components)	90	
ER2470	Pneumatic Supply Systems I	25	
ER2480	Pneumatic Supply Systems II	25	
ICT145	On-Off Control Devices	30	
AM1000	Introduction to Essential Skills	9	
AM1101	Math Essentials	42	
AM1191	Instrumentation and Control Math Fundamentals	42	
CM2161	Communication Essentials	36	
SD1761	Workplace Essentials	24	
MC1062	Computer Essentials	15	
AP1102	Introduction to Apprenticeship	12	

A certificate from College of the North Atlantic will be awarded upon successful completion of entry level courses.

APPRENTICESHIP
Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 4-5 years and would lead to Journeyperson status in the trade. For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

	Level 2 Advanced Level	**Hrs**
ICT-205	Introduction to Fluids	12
ICT-235	Final Control Elements	42
ICT-245	Alternate Current (AC)Theory	0
ICT-255	Process Measurement	60
ICT-260	Hydraulic Supply Systems and Control Devices	24
ICT-265	Pneumatic Supply Systems	24

ICT-270	Electronics Components	48

Level 3 Advanced Level		**Hrs**
ICT-300	Basic Process Control	54
ICT-305	Trade Related Computer Use	6
ICT-320	Variable Speed Drives	30
ICT-325	Process Analyzers I	42
ICT-330	Equipment Monitoring Devices	12
ICT-335	Communication Systems and Devices	30
ICT-340	Process Analyzers II	30
ICT-345	Job Planning	6

Level 4 Advanced Level		**Hrs**
ICT-410	Advanced Process Control	36
ICT-415	Supervisory Control and Data Acquisition Systems	24
ICT-420	Human Machine Interface Systems	12
ICT-425	Safety Systems and Devices	18
ICT-435	Programmable Logic Controller Systems	60
ICT-440	Distributed Control Systems	30
ICT-600	Program Review	30

This red seal program involves automation in the production of various commodities. Complex process control and measurement systems such as those found in the oil and gas industry, chemical plants, food processing operations, and the pulp and paper industry require sensitive and accurate instruments. Some of the duties include:

- Repair, maintain, calibrate, adjust and install industrial measuring and controlling instrumentation
- Ensure plant machinery is safe and operating correctly
- Regulate water flow and air quality
- Monitor and calibrate instruments
- Read and interpret circuit diagrams, blueprints and schematics
- Inspect, test, diagnose faults
- Write maintenance reports
- Repair, calibrate components and instruments
- Perform schedule preventative maintenance
- Observe safe repair procedures according to regulated standards

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Interpret drawings, codes, standards and government regulations.
3. Use tools and measuring equipment.
4. Conduct new installations.
5. Use and maintain analyzers.
6. Use and maintain various types of field mounted equipment.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES

Graduates may find employment in the following areas:

- Hydro Power Generation
- Mining, Petrochemical, and Natural Gas
- Industrial and Commercial Manufacturing
- Industrial Construction
- Industrial Instrument Servicing
- Pulp and Paper Processing

INDUSTRIAL TRADES

Machinist
CERTIFICATE

• **37 Weeks**
• **September**
• **Placentia Campus**
• **This program is offered through a dual campus delivery model (Prince Philip Drive Campus in St. John's and Placentia Campus). Transportation to and from Placentia from St. John's will be provided.**

COURSES

CODE	TITLE	Hrs
Level 1	**Pre-Employment**	
TS1510	Occupational Health & Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
MW1190	Machine Shop Safety	15
MW1230	Drawings and Specifications II	37
MW1370	Basic Layout	15
MW1381	Hand and Power Tools	30
MW1390	Hand Threading and Reaming	30
MW1762	Precision Measurement	35
MW1772	Drawings and Specifications I	40
MW1782	Cutting Fluids, Coolants and Lubricants	15
MW1791	Machinable Materials	9
MW1802	Angular Measurement	30
MW1841	Hoisting, Lifting and Rigging	15
MW1852	Drills and Drill Presses	45
MW1861	Introduction to Conventional Lathes	45
MW1872	Basic Conventional Lathe Operation	70
MW1881	Conventional Lathe Drilling, Boring, Reaming, Tapping and Die Threading	30
MW1900	Taper Turning	30
MW1912	Basic Threading	60
MW1921	Introduction to Milling Machines	72
MW1942	Job Planning	25
MW1945	Mentoring	6
MW1951	Reciprocating Machines	45
MW2061	Computer Numerical Control (CNC) Machine Tools	15
MW2071	Computer Numerical Control Operation I	45
MW2082	Mechanical Components	15
MW2123	Oxy-Fuel Cutting and Welding	30
MW2301	Power Sawing Equipment	30
MW2311	Introduction to Grinding and Abrasives	20
MW2321	Heat Treatment	20
MW2341	Reconditioning	15
MW2370	Material Testing	15
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1400	Machinist Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP

Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 4-5 years and would lead to Journeyperson status in the trade. For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2 Advanced Level		Hrs
MW3100	Heat Treatment II	6
MW1991	Quality Inspection	15
MW2001	Vertical Milling Machine Operation	85
MW2250	Component Refurbishment	6
MW2101	Surface Grinders	40
MW1931	Advanced Conventional Lathe Operation	105
MW2400	CNC Programming, Set Up and Operation 1	43

Level 3 Advanced Level		Hrs
MW2032	Cylindrical Grinders	35
MW2041	Cutter and Tool Grinder	20
MW2361	Horizontal/Universal Milling Machine Operation	60
MW1981	Gears and Gear Cutting	45
MW2500	CNC Programming, Set Up and Operation II	80

Level 4 Advanced Level		Hrs
MW2090	Bevel, Helical and Worm Gears	95
MW2111	Electrical ARC Welding	35
MW2600	CNC Programming, Operation and Set Up III	80
MW3000	Program Review	30

This red seal program is designed to train individuals in the knowledge, skills, and experience necessary to set up and operate precision metal cutting and grinding machines such as lathes, milling machines, drills, shapers, boring mills and grinders. A variety of equipment is used to manufacture, install, operate, adjust and repair machine tools and other machines in common use. Duties of a machinist include: study specifications, charts, drawings or sample parts to determine the machining operating to be performed, calculate dimensions and tolerances, and prepare working sketches if necessary, set up and operate tools, which may be computer numerically controlled, to perform precision machining operations. Work could either be in job shops or production jobs. In job shops, you will make a wide variety of repair parts for different types of machinery and industrial equipment in different situations. In production shops, you will produce parts using mass production methods including CNC machining and other tools.

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Interpret specifications, charts, drawings or sample parts to determine the machining operation required.
3. Select workplace materials.
4. Calculate dimensions and tolerances, and prepare sketches if necessary.
5. Set up and operate tools.

ENTRANCE REQUIREMENTS

Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate
3. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
4. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate

5. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

6. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES

Graduates may find employment in the following areas:

- Manufacturing
- Mining
- Aviation
- Machine shops
- Pulp and Paper
- Private shops

INDUSTRIAL TRADES

Mobile Crane Operator
CERTIFICATE
• **25 Weeks**
• **January**
• **Bay St. George Campus**

COURSES

CODE	TITLE	Hrs
Level 1	**Pre-Employment**	
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
MB1041	Shop Fundamentals for Mobile Crane Operators	60
MB1050	Introduction to Lift Planning	6
MB1055	Introduction to Rigging	6
MB1060	Introduction to Crane Components	6
MB1065	Crane Systems	6
MB1070	Mobile Crane Maintenance	45
MB1075	Specialty Crane Operations	6
MB1101	Mobile Crane Operation Safety	75
MB1130	Mobile Crane Operations	60
MB1140	Mobile Lattice Boom Cranes	60
MB1150	Mobile Hydraulic Boom Cranes	60
MB1250	Class 3 Driver's License for Mobile Crane Operators	90
MB1261	Rigging for Mobile Crane Operators	60
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1341	Hoisting Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

APPRENTICESHIP

Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding suitable work experience totaling 5400 hours with credit given for training hours towards Red Seal. For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

This red seal program exposes you to the safe and efficient operation of Mobile Cranes. Some of the duties include:

- Become proficient in the use of 50-ton Lattice Boom Crawler, 30 Rough Terrain, 20- and 18-ton Boom Truck
- Perform safe operations and routine maintenance for mobile cranes
- Proficiently assemble and disassemble mobile cranes

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Assess site hazards.
3. Operate equipment safely.
4. Recognize and evaluate conditions which are potentially hazardous to safe operation.
5. Interpret and apply load charts, rigging procedures and related documentation.
6. Interpret and apply visual and audio communication.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. Driver's License and Medical
i. Hold a valid Newfoundland and Labrador Class 5 driver's license for a minimum of 6 months prior to the commencement of the training program.
ii. You must have one (1) year as an unrestricted Class 5 driver's license before you can apply for a commercial class driver's permit.
iii. Upon entrance to the program you will be required to submit a completed medical form, you also must take a written commercial and sign test along with a vision test.
6. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following area:

- Oil Field Industries
- Construction
- Industrial
- Mining
- Cargo
- Railways

Non-Destructive Testing Technician
CERTIFICATE
- **37 Weeks**
- **September**
- **Port aux Basques Campus**

COURSES

CODE	TITLE	Hrs
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
ND1110	Liquid Penetrant Inspection	80
ND1130	Materials and Process	95
ND1210	Magnetic Particle Inspection	100
ND1310	Industrial Ultrasonics I	110
ND1311	Industrial Ultrasonics II	110
ND1410	Industrial Radiography I	80
ND1411	Industrial Radiography II	80
ND1500	Radiation Safety and CEDO	60
DR1770	Basic Drawing and Sketching for NDT	30
SP2330	Quality Assurance/Quality Control	30
WD1290	SMAW for NDT	30
MA1081	Math Fundamentals in NDT	30
AM1101	Math Essentials	42
PH1010	Physics for NDT	60
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15

Non-Destructive Testing Technician graduates are employed to accurately test items for potential flaws/failures using the following NDT test methods: Liquid Penetrant Inspection, Magnetic Particle Inspection, Ultrasonic Testing and Radiography Testing. The program will prepare you to write the National Exams that are required by the Canadian General Standards Board.

Some of the duties include:

- Employ accurate testing inspection methods on materials and equipment
- Test using magnetic particle inspection, liquid penetrant inspection, ultrasonic testing and radiography testing

Note:

1. There are specific vision requirements that are required by the Canadian General Standards Board prior to completing final certification in each discipline. Please refer to the following link for the requirements: http://www.nrcan.gc.ca/mining-materials/non-destructive-testing/8576
2. The Canadian General Standards Board exam fees are not included in tuition/supply fees.
3. Courses in ND1130 Material and Process and MA1081 Math Fundamentals in NDT must be successfully completed prior to applying for national qualification exams.

SUBJECT DESCRIPTIONS:

Magnetic particle Inspection (MPI) trains students to use small magnetic particles (i.e. iron filings) to detect flaws in components. For this method to be used the component must be made of ferromagnetic material such as iron, nickel, cobalt, or some of their alloys.

Liquid Penetrant Inspection (LPI) trains students to recognize surface flaws in components that appear as a result of capillary action. Flaws become apparent when a colored or fluorescent dye bleeds out of the component to reveal a crack in its surface.

Ultrasonic Testing (UT) trains students to use high frequency sound energy to conduct examinations and make measurements in materials to determine surface or internal cracks or flaws in the materials.

Radiography Testing (RT) trains students to send radioactive energy through a material enabling a negative (Photo) to be produced for that material illustrating internal flaws or cracks.

OUTCOMES

1. Perform Liquid Penetrant Inspection.
2. Perform Magnetic Particle Inspection.
3. Carry out Ultrasonic Inspection.
4. Carry out Radiographic Inspection.
5. Demonstrate knowledge of Quality Assurance, Control Documentation and Reporting Systems for various industrial sectors.
6. Develop attitudes conducive to the successful application of skills on the job.
7. Develop an awareness and concern for good safety practices in the work place.
8. Develop academic skills and knowledge in mathematics, communications and science.
9. Distinguish among various properties of metals with respect to their impact on NDT methods.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation

2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

LABORATORY
Time will be split between practical applications and the classroom throughout the program to assist the trainees in developing self-confidence/skills to carry out Non-Destructive Testing certification exams.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Oil and Gas
- Construction
- Aerospace
- Nuclear
- Automotive
- Welding and Steel Production

INDUSTRIAL TRADES

Plumber

CERTIFICATE

• **34 Weeks**
• **September**
• **Bonavista Campus**

COURSES

CODE	TITLE	Hrs
Level 1	**Pre-Employment**	
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
PF1020	Job Site Safety	9
PF1340	Tools and Equipment	75
PF1350	Blueprint I (Basic Residential)	30
PF1360	Blueprint II (Advanced Residential/Light Commercial)	30
PF1370	Rigging	39
PF1380	Introduction to Fuel Brazing and Cutting	45
PF1390	Pipe and Tubing Fundamentals	15
PF1401	Steel Piping	60
PF1410	Copper Piping	45
PF1425	Plastic Piping	75
PF1440	Piping Valves	30
PF1451	Hydronic Heating I	69
PF1610	Cast Iron Piping	18
PF1620	Non-Metallic Piping	6
PF1630	Water Service	6
PF1640	Hot and Cold Water Supply	30
PF1650	Hot Water Storage Tanks and Heaters	18
PF1660	Water Treatment Systems	6
PF1670	Residential Sanitary Drainage	60
PF1680	Residential Venting	45
PF1691	Storm Systems	13
PF1700	Commercial Drainage, Waste and Venting I	21
PF1710	Residential Appliances, Fixtures and Trim	30
PF1720	Rural Waste Disposal	15
PF1731	Introduction to Electric Welding & Cutting	24
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1261	Plumber Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP

Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 3-4 years and would lead to Journeyperson status in the trade. For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2 Advanced Level   **Hrs**
PLB-200   Piping Valves   12
PLB-205   Specialized Piping   9
PLB-210   Plumbing Fixtures, Appliances and Accessories   24
PLB-215   Hot Water Storage Tanks and Heaters   18
PLB-220   Drawings II   30
PLB-225   Drainage, Waste and Venting Systems II   36
PLB-230   Hydronic Systems I   51

Level 3 Advanced Level   **Hrs**
PLB-300   Hydronic Systems II   30
PLB-305   Water Service   12
PLB-310   Potable Water Distribution II   36
PLB-315   Commercial Drainage Systems   18
PLB-320   Commercial Venting Systems   24
PLB-325   Storm and Combination Drainage Systems (Sewers)   24
PLB-330   Irrigation Systems   3
PLB-335   Commercial/Institutional Plumbing Fixtures
            & Accessories   12
PLB-340   Compressed Air Systems   6
PLB-345   Single Family Dwelling Fire Protection Systems   3
PLB-350   Hydronic Systems Controls   12
PLB-355   Green Technology   18
PLB-360   Basic Electricity   12

Level 4 Advanced Level   **Hrs**
PLB-400   Gas Piping Systems   48
PLB-405   Medical Gas Systems   12
PLB-410   Low Pressure Steam Systems   30
PLB-415   Private Sewage Treatment Systems   12
PLB-420   Commercial Sewage Treatment Systems   6
PLB-425   Cross Connection Control   30
PLB-430   Pressure Systems (Rural Water Supply)   36
PLB-435   Water Treatment Systems   18
PLB-440   Process Piping Systems   6
PLB-445   Job Planning and Trade Documentation   6
PLB-450   Mentoring   6
PLB-455   Program Review   30

This red seal program prepares you to install and repair pipes, fixtures and other plumbing equipment for water distribution and waste water disposal in residential, commercial and industrial buildings. Some of your duties include:

- Read blueprints, drawings and specifications for plumbing systems
- Examine water supply networks, waste and drainage systems
- Install, repair and maintain domestic, commercial or industrial fixtures and systems
- Connect, bead, thread and join pipes
- Leak test utilizing air and water

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Plan work activity.
3. Use and maintain hand and portable power tools and equipment.
4. Interpret plans and specifications and prepare layouts and working drawings.
5. Prepare components and fixtures according to specifications and assume responsibility for the end product.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Construction contractors
- Plumbing repair shops

Powerline Technician
CERTIFICATE

• **35 Weeks**
• **September**
• **Happy Valley-Goose Bay, Seal Cove, and St. Anthony Campuses**

COURSES

CODE	TITLE	Hrs
Level 1	**Pre-Employment**	
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
ER1140	DC Theory	30
ER1151	Series and Parallel DC Circuits	45
OL1250	Access Equipment	6
OL1130	Power and Energy	6
OL1140	Inductance and Capacitance	10
OL1150	Transmission Systems	5
OL1160	Steel Structure Climbing	6
OL1170	Job Planning	6
OL1180	AC Theory	6
OL1190	AC Circuits	24
OL1240	Series and Parallel Circuits	10
OL1601	Traffic Control Person	4
OL1631	Safety	14
OL1641	On and Off Road Equipment	10
OL1681	Tools and Equipment	40
OL1691	Pole Climbing	30
OL1701	Drawings, Specifications and Standards	15
OL1714	Single-Phase Circuits	10
OL1715	Distribution Lines	30
OL1721	Conductors and Cables	30
OL1725	Overhead Distribution Structures	240
OL1741	Sagging Conductors	10
OL1751	Tree Trimming	6
OL1771	Aerial Devices and Hydraulics	30
OL1781	Transmission Structures	5
OL1791	Grounding and Bonding	30
OL1811	Transformers	30
OL1821	Street Lighting Systems	25
OL1835	Overhead Distribution Systems	30
OL1851	Rigging, Hoisting and Lifting	30
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1271	Powerline Technician Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12
OT1161	Work Term	60

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP
Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 4-5 years and would lead to Journeyperson status in the trade. For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2 Advanced Level	Hrs
OL2521 Three-Phase Theory	60
OL2532 Transformer Banking	60
OL2632 Underground Distribution Systems	120

Level 3 Advanced Level	Hrs
OL3700 Live Line work	240

Level 4 Advanced Level	Hrs
OL4000 Power Transformers	25
OL4010 Three-Phase Metering	30
OL4020 Voltage Regulation and Control Devices	30
OL4030 Line Protective Devices	60
OL4040 Line Capacitors	20
OL4050 Substations, Switching Stations and Terminals	60
OL4060 Single-Phase Metering	15

This red seal program will prepare you to build and repair overhead and underground power lines used to conduct electricity from generating plants to the customer.   Some of the duties include:

- Erect and maintain steel, wood or concrete poles, towers and guy wires
- Install, maintain and repair overhead and underground powerlines, cables, insulators, lighting arrestors and switches
- Repair or replace transformers and street lighting
- Splice, solder and insulate conductors
- Diagnose power distribution and transmission faults

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Interpret occupational documents.
3. Use and maintain tools and equipment.
4. Use and maintain electrical distribution systems and their equipment.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. Driver License
Applicants are required to have a valid Class 05 license prior to acceptance into the Powerline Technician Program.
Notes: Driver License and Endorsements
a) A NL Air Brake endorsement (9A) may be required to operate some vehicles within the program and upon employment.
b) Employers may seek graduates who can obtain a Class 03 License. NL Motor Vehicle Regulations requires a valid Class 05 for a minimum of 12 months prior to applying for a Class 3 license.
6. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Utility companies
- Private contractors

INDUSTRIAL TRADES

Refrigeration & Air Conditioning Mechanic

CERTIFICATE

• **37 Weeks**
• **September**
• **Ridge Road Campus**

COURSES

CODE	TITLE	Hrs
Level 1 Pre-Employment		
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
RF1290	Ozone Depletion Substances	6
RF1181	Trade-Related Documentation and Work Organization	12
RF1190	Residential and Commercial Compressors	48
RF1161	Safety	12
RF1611	Air Movement and Indoor Air Quality	30
RF1810	Blueprints/Drawing and Specifications	30
RF1171	Tools and Equipment	36
RF1211	Piping, Tubing, Soldering and Brazing	42
RF1221	Refrigeration Fundamentals	90
RF1241	Refrigerants, Gases and Oils	42
RF1251	Valves and Accessory Devices	30
RF1262	Leak Testing, Evacuation and Charging	36
RF1271	Electrical Fundamentals	60
RF1281	Motor Fundamentals	42
RF1321	Control Fundamentals	24
RF1331	Air Conditioning Fundamentals	18
RF1341	Hoisting, Lifting, Rigging and Access/Egress Equipment	18
RF1351	Pressure Enthalpy Diagrams and System Analysis	24
RF1361	Compressor Fundamentals	30
RF1371	Condensers	24
RF1381	Evaporators	24
RF1390	Metering Devices	30
RF1401	Refrigerant Flow Controls and Accessory Devices	30
RF1451	Refrigeration Air Conditioning Installation	112
RF1481	Control Circuits and Wiring Diagrams	54
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1291	Refrigeration Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP

Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 4-5 years and would lead to Journeyperson status in the trade. For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2 Advanced Level	Hrs
RF1600 Heat Pump Systems	30
RF2000 Large Commercial / Industrial Compressors	24
RF2010 Heating Systems	30
RF2510 Split Air Conditioning Systems	30
RF2520 Refrigeration Load Calculation	24
RF2351 Refrigeration System Design	36
RF2541 Packaged Air Conditioning Systems	30
RF2731 Commercial Refrigeration Systems	36

Level 3 Advanced Level	Hrs
RF1430 Fluid Dynamics and Pumps	15
RF1661 Air Conditioning Load Calculation	15
RF3030 Troubleshooting Refrigeration and Air Conditioning Electronic Controls	42
RF3040 Advanced Motors	30
RF3550 Refrigeration Capacity Control	30
RF3590 Air Conditioning System Design	36
RF3670 Duct Systems and Design	30
RF3751 Control Systems	42

Level 4 Advanced Level	Hrs
RF4000 Job Coordination	19
RF4421 Evaporative Condensers, Cooling Towers and Fluid Coolers	30
RF4620 Air Measurement and System Air Balancing	30
RF4640 Troubleshooting with Schematic Writing Diagrams	45
RF4721 Chillers and Chiller Systems	40
RF4791 Industrial Refrigeration Systems	40
RF4100 Mentoring	6
RF4800 Program Review	30

This red seal program offers training in planning, preparing and laying out any cooling system or heat-cooling system that is used in a residential, commercial, institutional or industrial refrigeration setting. Some of the duties include:

- Install and start up refrigeration and air cooling systems
- Service, repair and replace refrigeration and air conditioning piping and components
- Interpret blueprints and verbal instruction
- Assemble and install refrigeration and air conditioning components
- Install and calibrate controls
- Perform leak detection, record keeping and performance test

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Interpret mechanical and architectural drawings, acts, codes, standards, legislation, and service and operating manuals.
3. Use and maintain tools and equipment.
4. Arrange for refrigeration and air conditioning installation and maintenance.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES

Graduates will find employment in the following areas:

- Installation companies
- Service companies

INDUSTRIAL TRADES

Renovation Technician

CERTIFICATE/DIPLOMA

• **68 Weeks**
• **September**
• **Grand Falls-Windsor Campus**
• **Alternate Year Intake**

COURSES

CODE	TITLE	
Semester 1		**Hrs**
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
AJ1221	Floor and Wall Framing	90
AM1101	Math Essentials	42
HE1620	Powerline Hazards	4
AJ1160	Blueprint Reading	45
AJ1111	Carpentry Fundamentals	74
AJ1201	Layout & Footing	80
AJ1211	Wall Forms	80
AM1000	Introduction to Essential Skills	9

CODE	TITLE	
Semester 2		**Hrs**
AJ1410	Interior Fundamentals	60
SD1761	Workplace Essentials	24
AJ1501	Interior Trim	60
CM2161	Communication Essentials	36
AJ2430	Scaffolding	45
AJ1310	Roof Fundamentals	80
AJ1760	Chainsaw Safety	4
LA1110	Fall Protection Awareness	6
AM1131	Carpenter Math Fundamentals	42
AJ1231	Exterior Finishes	60
LA1100	Confined Space Awareness	6
MC1062	Computer Essentials	15

CODE	TITLE	
Semester 3 (Intersession)		**Hrs**
AJ1121	Rigging	30
CAR155	Concrete	12
AJ2420	Post and Beam	30
CAR225	Deck Layout and Framing	9
AJ1601	Stair Fundamentals	60
AP1102	Introduction to Apprenticeship	12
AJ1170	Residential Estimating	30

CODE	TITLE	
Semester 4		**Hrs**
OJ1860	Job Placement I	90

Prior Learning Assessment Recognition (PLAR) exemptions are available for this course subject to evidence of suitable work experience.

CODE	TITLE	
Semester 5		**Hrs**
RV1250	Renovators Basic Plumbing	30
RV1260	Renovators Basic Electrical	30
RV1160	Renovation I	30
RV1161	Renovation II	30
RV1170	Basement Renovations	30
RV1200	Green Renovating	30
RV1320	Foundation Systems	30

RV1350	Flooring	45
RV1230	Project Manager I	40
RV1101	Decks and Fences	45
RV1231	Project Manager II	40

Semester 6		**Hrs**
RV1300	Residential Estimating II	30
RV1360	Special Trim	40
RV1341	Cabinet Layout/Design	60
RV1270	Renovators Basic HVAC	30
RV1400	Demolition and Waste Management	30
RV1120	Building Systems	30
RV1140	Accommodated Construction	30
OJ1861	Job Placement II	270

Prior Learning Assessment Recognition (PLAR) exemptions are available for this course subject to evidence of suitable work experience.

This two year diploma program will provide students with hands on experience and knowledge pertaining to the world of home and light commercial building renovation. Building systems, efficient building techniques, energy conserving systems, sustainable building approaches, estimating and project management are some of the topics students of the Renovation Technician program will cover.

Graduates will have the skills required to work in a variety of residential and commercial building construction settings focusing on renovation projects. Students will learn to recognize hazardous materials and the need for proper waste disposal strategies, as well as proper use of both non-renewable and renewable energy sources.

Students in the Renovation Technician program will receive a Certificate for Carpenter upon completion of the Carpenter Entry Level courses in Semesters 1, 2 and 3, providing an opportunity to register as a first-year carpenter apprentice. A Diploma in Renovation Technician will be awarded for completion of all courses listed in Semesters 1 through 6.

OUTCOMES

1. Practice safety work procedures.
2. Manage a renovation project as it relates to core and sub trade practices.
3. Demonstrate problem solving skills, good work practices, strong communication skills, and utilize practical hands on experience gained directly from job placements in industry.
4. Perform with carpenter skills and knowledge in construction techniques related to building sciences, green technologies, waste management, estimation/budgeting and scheduling.
5. Solve problems with associated trades in the areas of electrical, HVAC, plumbing, painting, plastering, masonry and drafting.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical College Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

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Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES

Graduates may find employment in the following areas:

- General contractors
- Commercial contractors
- Private contractors

INDUSTRIAL TRADES

Sheet Metal Worker
CERTIFICATE
- **34 Weeks**
- **September**
- **Burin Campus**
- **Alternate Year Intake**

CODE	TITLE	
Level 1	**Pre-Employment**	**Hrs**
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
SL1101	Safety	6
SL1111	Tools and Equipment	60
SL1121	Hoisting, Lifting and Rigging	18
SL1131	Fabrication Fundamentals	30
SL1145	Metallurgy	10
SL1151	Drafting, Pattern Development and Layout	30
SL1161	Blueprint Reading	30
SL1180	Sheet Metal Fundamentals	3
SL1241	Layout and Fabrication Parallel Lines	90
SL1251	Layout and Fabrication Radial Lines I	90
SL1261	Layout and Fabrication Triangulation I	60
SL1280	Plasma Arc Cutting	12
SL1303	Air handling Systems I	18
SL1350	Oxy-Acetylene Welding and Cutting	30
SL1430	Shielded Metal Arc Welding (SMAW)	45
SL1440	Introduction to Gas Metal Arc Welding (GMAW)	30
SL1450	Introduction to Gas Tungsten Arc Welding (GTAW)	60
SL1630	Layout and Fabrication Triangulation II	60
SL1741	Air Quality Management	60
SL1770	Soldering	30
OT1191	Work Term	60
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1301	Sheet Metal Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP
Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 4-5 years and would lead to Journeyperson status in the trade. For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2	**Advanced Level**	**Hrs**
SL2100	Trade Related Documents	15
SL2130	Advanced Gas Metal Arc Welding	30
SL2160	Layout and Fabrication - Triangulation III	120
SL2200	Fabrication (Air and Material Handling)	60
SL2230	Chimneys, Breeching and Venting	15

Level 3 Advanced Level	Hrs
SL3100 Layout and Fabrication	90
SL3130 Installation	60
SL3150 Advanced Gas Tungsten Arc Welding	90

Level 4 Advanced Level	Hrs
SL1720 Advanced Layout and Fabrication	90
SL4100 Job Planning	15
SL4200 HVAC Systems	60
SL4230 Adjusting and Balancing	15
SL4240 Metal Roofing and Architectural Metal	30
SL4260 Maintenance and Repair	15
SL4280 Specialty Products	15

In this red seal program Sheet Metal Workers fabricate, assemble, install and repair sheet metal products. You will use many types of metal including black and galvanized steel, copper, brass, nickel, stainless steel, aluminum and tin place to make products such as: pollution control systems, dust collection and control systems, air-slides, material blowers, heating, ventilating and air conditioning systems, solar heating and cooling systems, metal showcases, metal cabinets, flashing, coping, troughing and roof drainage systems. Some of the duties include:

- Lay out, measure and mark dimensions and reference lines
- Utilize drawings and templates
- Use laser and plasma cutting equipment, numerical controlled and computerized equipment
- Cut, drill, punch, bend and shape sheet metal using hand and power shears and snips
- Fasten components using bolts, screws, cement, rivets, adhesives, solder, or welding
- Install and repair sheet metal products in accordance with building code requirements

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Use and maintain tools, machines and equipment.
3. Use scaffolds, hoists, slings and ladders.
4. Determine project requirements.
5. Develop patterns using various methods.
6. Fabricate parts using hand tools, power tools, and power operated equipment.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES

Graduates may find employment in the following areas:

- Plumbing, Heating and Air Conditioning Companies
- Steel Producers
- Metal Producers
- Exterior Construction firms

INDUSTRIAL TRADES

Small Equipment Service Technician
CERTIFICATE
• **36 Weeks**
• **September**
• **Bay St. George Campus**

COURSES

CODE	TITLE	Hrs
Level 1	**Pre-Employment**	**Hrs**
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
TS1191	Shop Fundamentals	120
TS1220	Precision Measurement	30
WD1250	Oxy-Fuel Cutting and Heating	30
WD1320	Gas Metal Arc Welding	30
MP1440	Electrical and Electronic Basic Principles	90
SR1120	Service Information Systems	30
SR1131	Engine Operations	30
SR1140	Lubrication Systems	45
SR1221	Small Equipment Engines	60
SR1230	Small Equipment Starting and Charging Systems	75
SR1240	Ignition Systems	60
SR1320	Gasoline Engine Air and Fuel Delivery Systems	30
SR1330	Gas Injection Systems	60
SR1340	Carburetted Fuel Systems	60
SR1420	Small Equipment Cooling Systems	45
SR1145	Introduction to Heating and Air Conditioning Systems	30
SR1431	Emission Control Systems	30
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1361	Power Sport Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP
Upon completion of the pre-employment certificate program, a graduate may pursue Blue Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 4-5 years and would lead to Journeyperson status in the trade. For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2	**Advanced Level**	**Hrs**
SR2100	Lawn & Garden Equipment Servicing Fundamentals	45
SR2200	Snowmobile Servicing Fundamentals	60
SR2300	Motorcycle & ATV Servicing Fundamentals	60
SR2400	Marine Equipment Servicing Fundamentals	75

Level 3	**Advanced Level**	**Hrs**
SR1500	Small Equipment Transmissions	120
SR2310	Motorcycle & ATV Troubleshooting & Repair	120

Level 4	Advanced Level	Hrs
SR2110	Lawn & Garden Equipment Troubleshooting & Repair	80
SR2210	Snowmobile Troubleshooting & Repair	80
SR2410	Marine Equipment Troubleshooting & Repair	80

The Small Equipment Service Technician program is designed to enable you to learn the knowledge and skills associated with the repair and maintenance of recreational equipment such as snowmobiles, ATVs, motorcycles, personal water craft and outboard motors, and fuel-powered tools such as chainsaws and lawnmowers. Some of the duties include:

- Review and interpret work orders and technical manuals
- Inspect engines, motors and other mechanical components using test devices
- Diagnose and isolate faults
- Repair or replace components using hand tools
- Performance test repaired equipment
- Perform scheduled maintenance and advise customers on repair cost

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Use and maintain tools and equipment.
3. Interpret schematics and wiring diagrams.
4. Identify major engine components.
5. Maintain and repair lubricant systems.
6. Maintain and repair light duty engines.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES

Graduates may find employment in the following areas:

- Rental dealerships
- Recreational dealerships
- Independent garages
- Service stations
- Repair shops
- Manufacturing companies

Steamfitter / Pipefitter

CERTIFICATE

• **35 Weeks**
• **September**
• **Clarenville Campus**

COURSES

CODE	TITLE	
Level 1	**Pre-Employment**	**Hrs**
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
PF1340	Tools and Equipment	75
PF1365	Blueprint Interpretation	60
PF1370	Rigging	39
PF1380	Introduction to Fuel Brazing and Cutting	45
PF1390	Pipe and Tubing Fundamentals	15
PF1400	Steel Piping	90
PF1410	Copper Piping	45
PF1421	Plastic Piping	43
PF1440	Piping Valves	30
PF1450	Hydronic Heating I	60
PF1541	Low Pressure Steam	96
PF1550	Pipe Template Development	75
PF1560	Pipe Layout and Fitting Fabrication	72
PF1571	Introduction to Electric Welding and Cutting	60
PF2711	Pipe and Tube Bending	21
STM100	Safety	12
STM135	Bracket, Support, Hanger, Guides and Anchor Fabrication	12
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1390	Steamfitter Pipefitter Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP

Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 4-5 years and would lead to Journeyperson status in the trade. For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2	**Advanced Level**	**Hrs**
STM-200	Drawings and Specifications II	30
STM-205	Template Development	30
STM-210	Piping System Component Fabrication (Spool)	30
STM-215	Fiberglass Piping	6
STM-220	Specialty Piping	12
STM-225	Hydronic Systems	60
STM-230	Heat Tracing Systems (Liquids)	6
STM-235	Electrical Principles	6

Level 3 Advanced Level   **Hrs**
STM-300   Industrial Water and Waste Systems   24
STM-305   Heat Tracing Systems (Steam)   12
STM-310   Hydronic System Controls   12
STM-315   Low Pressure Steam Systems   72
STM-320   Fuel Systems   60
STM-325   Medical Gas Systems   12
STM-330   Cross Connection Control   6
STM-335   Instrumentation   12
STM-340   Controlled Bolting and Tensioning   30

Level 4 Advanced Level   **Hrs**
STM-400   Complex Hoisting, Lifting and Rigging   24
STM-405   Hydraulic Systems   12
STM-410   Compressed Air and Pneumatic Systems   12
STM-415   High Pressure Steam Systems   60
STM-420   Refrigeration Systems   18
STM-425   Heat Recovery Systems   15
STM-430   Geo-Exchange and Geothermal Systems   12
STM-435   Solar Heating Systems   15
STM-440   Process Piping Systems   18
STM-445   System Testing and Commissioning   12
STM-450   Job Planning   6
STM-455   Quality Control   6
STM-460   Program Review   30

This red seal program offers training in repairing and maintaining pipe and steam systems. Some of the duties include:

- Determine required pipe and tools necessary to complete a layout and sequence of tasks
- Create detail sketches for pipe and equipment fabrication and installation
- Measure, cut, thread, groove, bend, assemble and install metal, plastic and fiberglass pipes, valves and fittings and join sections
- Perform performance leak tests and pipe securement
- Perform maintenance and replacement of worn components
- Perform pipeline construction
- Safely layout, assemble, fabricate, maintain and repair piping systems
- Perform blueprint reading for piping and tubing
- Perform maintenance on low pressure steam and heating and cooling systems

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Use and maintain tools and equipment.
3. Perform common installation processes.
4. Plan lifts.
5. Hoist loads.
6. Install high and low pressure process steam systems.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
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i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103

3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
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If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Construction contractors
- Manufacturing Plants
- Utility Companies
- Oil and Gas Refineries
- Industrial Plants
- Pulp and Paper Mills
- Thermal and Steam Generating Plants
- Chemical Plants

INDUSTRIAL TRADES

Welder

CERTIFICATE

• **36 Weeks**
• **September**
• **Burin, Corner Brook, Happy Valley-Goose Bay, Labrador West, and Prince Philip Drive Campuses**

COURSES

CODE	TITLE	Hrs
Level 1	**Pre-Employment**	
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
WD1190	Tools and Equipment	60
WD1360	MCAW (Metal Core Arc Welding)	18
WD1390	Safety	6
WD1430	Hoisting, Lifting, Rigging and Access Equipment	30
WD1602	Oxy-Fuel Cutting, Heating and Gouging	60
WD1610	SMAW (Shielded Metal Arc Welding) I	30
WD1620	SMAW II – Fillet Weld all Positions	60
WD1631	GMAW (Gas Metal Arc Welding) I	18
WD1641	GTAW (Gas Tungsten Arc Welding) I Set-up	18
WD1651	Plasma Arc Cutting and Gouging	12
WD1661	Blueprint Reading I (Basic)	30
WD1670	Blueprint Reading II (Welding Symbols)	30
WD1682	Metallurgy	18
WD1691	Quality Control	15
WD1701	Stationary Machinery	12
WD1721	Jigs and Fixtures	12
WD1741	FCAW (Flux Core Arc Welding) I	18
WD1790	Work Planning	6
WD1801	SMAW (Shielded Metal Arc Welding) III	120
WD1815	Fillet and Groove Weld	6
WD1821	GMAW II – Fillet Weld all Positions, Mild Steel	18
WD1832	GMAW (Gas Metal Arc Welding) III	30
WD1871	Build Up of Metal Parts	12
WD1892	FCAW II – Fillet and Groove Weld	80
WD1900	Air Carbon Arc Cutting and Gouging	15
WD2910	Layout and Template Development Fundamentals	30
WD3020	Shop Drawings and Structural Components for Fabrication	30
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1321	Welding Math Fundamentals	42
CM2161	Communication Essentials	36
SD1761	Workplace Essentials	24
MC1062	Computer Essentials	15
AP1102	Introduction to Apprenticeship	12
OT1150	Workplace Exposure	80

A certificate from College of the North Atlantic will be awarded upon successful completion of pre-employment level courses.

APPRENTICESHIP
Upon completion of the pre-employment certificate program, a graduate may pursue Red Seal Certification by finding employment, registering as an "Apprentice" and completing the following Advanced Level training and required work experience. The apprenticeship may take 3-4 years and would lead to Journeyperson status in the trade. For more information regarding apprenticeship refer to **www.aes.gov.nl.ca**

Level 2 Advanced Level   **Hrs**
WDF-620   Quality Assurance / Control I   12
WDF-645   Metallurgy II   12
WLD-105   FCAW II   24
WLD-110   MCAW II   6
WLD-205   SMAW III   42
WLD-210   SMAW IV   6
WLD-215   GMAW III   18
WLD-220   GMAW IV   3
WLD-225   GTAW I   12
WLD-230   GTAW II   30
WLD-235   GTAW III   30
WLD-800   Submerged Arc Welding I   3
WLD-300   Jigs and Fixtures   6
WLD-805   Work Planning   6

Level 3 Advanced Level   **Hrs**
WDF-650   Metallurgy III   12
WDF-625   Quality Assurance / Control II   6
WLD-305   SMAW V   33
WLD-310   GMAW V   18
WLD-315   FCAW III   15
WLD-320   GTAW V   30
WLD-325   SMAW VI   6
WLD-330   GMAW VI   12
WLD-335   GMAW VII   6
WLD-340   GTAW IV   6
WLD-345   GTAW VI   30
WLD-810   Submerged Arc Welding II   3
WLD-365   Build Up of Metal Parts   3
WLD-815   Program Review   30

This red seal program offers training in joining and severing metals in beams, girders, vessels, piping and other metal components that make metal parts used in construction and manufacturing plants, and weld parts, tools, machines and equipment. Some of the duties are:

- Develop patterns in given layouts, blueprints and work orders
- Clean and check for defects and shape component parts
- Examine blueprints and work orders
- Perform welding of various metals

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Interpret drawings and develop layout patterns for projects.
3. Use and maintain tools and equipment.
4. Follow required codes, specifications and standards.
5. Employ various welding methods using SMAW, GMAW, FCAW and GTAW

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
Adult Basic Education (Level III) Graduation with General College Profile (or Business Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:
i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103

3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
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If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES
Graduates may find employment in the following areas:

- Machine shops
- Fabrication plants
- Garages
- Production plants
- Shipyard
- Oil and Gas

INDUSTRIAL TRADES

Welder / Metal Fabricator (Fitter)
CERTIFICATE
• **65 Weeks**
• **September**
• **Port aux Basques Campus**
• **This program is currently undergoing a program review, which will result in some courses being change and/or re-sequenced.**

COURSES

CODE	TITLE	
Semester 1		**Hrs**
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
WD1390	Safety	6
WD1190	Tools and Equipment	60
WD1602	Oxy-Fuel Cutting, Heating, Gouging and Welding	60
WD1610	SMAW 1 Set-up, Strike and Maintain and Arc	30
WD1631	GMAW (Gas Metal Arc Welding) 1	18
WD1661	Blue Print Reading 1 (Basic)	30
WD1670	Blue Print Reading 2 (Welding Symbols)	30
WD1620	SMAW 2 Fillet Weld, All Positions	60
AM1000	Introduction to Essential Skills	9
AM1101	Math Essentials	42
AM1231	Metal Fabrication Math Fundamentals	42
CM2161	Communication Essentials	36

CODE	TITLE	
Semester 2		**Hrs**
SF1140	Blueprint Reading	30
SF1150	Layout Introduction and Parallel Line Development	40
SF1160	Radial and Triangulation Layout	50
WD1730	Fabrication Fundamentals	12
WD1721	Jigs and Fixtures	12
WD1701	Stationary Machinery	12
SF1460	Basic Plate Development	120
SF1400	Press Brake Operation	45
WD1185	Bending and Rolling	4
SF1410	Roll Forming Equipment and Operation	45
WD1270	SMAW	30
AP1102	Introduction to Apprenticeship	12
MC1062	Computer Essentials	15

CODE	TITLE	
Semester 3		**Hrs**
SF1470	Basic Assembly and Fitting	40
WD1430	Hoisting, Lifting, Rigging and Access	30
WD1871	Build Up of Metal Parts	12
WD1360	MCAW (Metal Core Arc Welding)	18
WD2410	Stud and Spot Welding	4
SD1761	Workplace Essentials	24

CODE	TITLE	
Semester 4		**Hrs**
WD1815	Fillet and Groove Weld	6
WD1821	GMAW (Gas Metal Arc Welding)	218
WD1741	FCAW (Flux Cored Arc Welding)	118
WD1892	FCAW (Flux Cored Arc Welding)	280
WD1691	Quality Control	15
WD1770	SAW (Submerged Arc Welding)	4
WD1790	Work Planning	6
ND1130	Materials and Processes	95

WD1682	Metallurgy	18
ND1210	Magnetic Particle Inspection	100
WD1651	Plasma Arc Cutting and Gouging	12
WD2910	Layout and Template Development Fundamentals	30

Semester 5		**Hrs**
WD1832	GMAW (Gas Metal Arc Welding) 3, Groove Welds, All Positions, Mild Steel	30
WD1801	SMAW (Shielded Metal Arc Welding) 3	120
WD1641	GTAW (Gas Tungsten Arc Welding) 1	18
WD1900	Air Carbon Arc Cutting and Gouging	15
WD3020	Shop Drawings and Structural Components	30
ND1110	Liquid Penetrant Inspection	80
AM1321	Welding Math Fundamentals	42
OT1150	Workplace Exposure	80

This red seal program contains components of the Welder, Metal Fabricator and Non-Destructive Testing Technician programs. At the end of the two years you will have two entry level certificates. Some of the duties include:

- Develop patterns or follow directions in given layouts, blueprints and work orders
- Clean and check for defects and shape component parts
- Examine blueprints and work orders
- Perform weld of various metals using different processes in accordance to codes and standards
- Layout, cut and fabricate structural steel
- Study engineering drawings and blueprints
- Plan the sequence of tasks required to efficiently cut metal
- Rig, hoist and move materials
- Tack weld, bolt and rivet components
- Install fabricated components in the final product
- Assemble and fit metal sections and plates to form complete units or sub units
- Employ accurate testing inspection methods on materials and equipment
- Test using magnetic particle inspection, liquid penetrant inspection

OUTCOMES

1. Demonstrate safe work practices and personal protection.
2. Interpret shop drawings, sketches and fabrication drawings.
3. Follow required codes, specifications and standards.
4. Prepare work area and equipment schedule.
5. Prepare final products for finish.
6. Demonstrate welds using SMAW, GMAW, FCAW and GTAW.
7. Perform liquid penetrant and magnetic particle non-destructive testing inspections.
8. Perform welds of various metals.

ENTRANCE REQUIREMENTS
Eligibility for admission requires the applicant to meet one of the following academic criteria:

1. High School
High School Graduation
2. Adult Basic Education
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i. Mathematics 1102A, 1102B, 1102C and 2102A, 2102B, 2102C or 3102A, 3102B and 3102C
ii. Science 3101, 3102, 3103
3. Comprehensive Arts and Science (CAS) Trades
Comprehensive Arts and Science (Trades) Certificate

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, must be at least 19 years of age at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

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If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

EMPLOYMENT OPPORTUNITIES

Graduates may find employment in the following areas:

- Machine shops
- Fabrication plants
- Production plants
- Oil and Gas
- Mining
- Ship Yards

Agriculture Technician Co-op

DIPLOMA

- **Two Years**
- **September**
- **Corner Brook Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
AG1100	Sustainable Agriculture & the Food System	2	2	0
AG1350	Farm Facilities	3	2	2
GE1310	Soil Fundamentals	3	2	3
AG1400	General Agronomy	4	3	2
MC1080	Introduction to Computers	2	2	0
AG1120	Agriculture Safety/Field Exposure	3	2	4
Semester 2		**Cr**	**Le**	**La**
AG1510	Animal Care	3	2	2
AG1600	Vegetable and Fruit Production	3	2	3
AG1620	Field Crops	3	2	3
CM1400	Technical Report Writing I	3	3	0
AG1430	Precision Farming	2	1	3
AG1560	D airy Production	3	2	3
Semester 3 (Intersession)		**Cr**	**Le**	**La**
AG1640	Tillage and Planting	3	2	3
AG1300	Farm Equipment Operation	3	2	4

Note: *Additional fees and expenses will be required for participation in the field camp included in AG1300.*

Prior to beginning WC1850 students in the Agriculture Technician Co-op complete AG1640 and AG1300 and are required to obtain the Pesticide Applicator License.

WC1850	Co-op Work Term	5	0	0
Semester 4		**Cr**	**Le**	**La**
AG1720	Weed Management	3	2	2
AG1740	Crop Insects and Diseases	3	2	2
AG1500	Livestock Genetics	3	2	2
AG1760	Forage and Pasture Management	3	2	3
AG1520	Ruminant Production: Beef, Sheep & Goats	3	2	3
AG1305	Greenhouse Production	3	2	3
Semester 5		**Cr**	**Le**	**La**
AG1530	Livestock Diseases	3	2	2
AG1540	Non-Ruminant Production: Swine, Honeybee and Fur Production	3	2	3
AG1550	Poultry and Egg Production	3	2	2
AG1800	Food Safety and Food Processing	3	2	2
AG1700	Nutrient Management	4	3	2
AG1570	Livestock Nutrition	3	2	3
Semester 6 (Intersession)		**Cr**	**Le**	**La**
AG1200	The Business of Agriculture	4	3	3
AG1240	Agriculture Sales and Marketing	3	2	2
AC1100	Bookkeeping I	4	3	2

The course and lab hours per week are based on a 15 week semester. In intersession, the course and lab hours will be adjusted to reflect the shorter semester length.

Throughout the program students will be engaged in sustainable agriculture and exposed to the study of plants and animals including the biological effects of soil, climate, chemical management activities, tillage, fertilization and irrigation on plant and animal performance and enhancement. Program participants will perform physical agriculture tasks combining energy, labor, skills and machinery using the latest technology and best practices in a real world setting on a day to day basis. Students of the Agricultural Technician Co-op program will participate in a field camp at the Center for Agriculture and Forestry Development. Graduates will be able to balance the market demands for various farm products with several socioeconomic factors including cost of production, taxation, research funding, technical assistance, land usage, and potential environment al impacts.

Agriculture technician students will receive instruction in a broad range of course content aimed at developing good analytical and organizational skills, as well as the ability to work effectively as a team member. After successfully completing this program, individuals will have a basic working knowledge of agricultural techniques and procedures related to the care of livestock and plants and should be able to safely operate farm equipment.

OBJECTIVES:
Upon successful completion of the program, graduates will be able to:

1. Perform a wide variety of duties in support of agriculture using farm tools and equipment.
2. Conduct agriculture research following established guidelines, procedures and directions to move towards a reliable, sustainable and safe supply of healthy food products for future generations.
3. Prepare land, select seed and nutrient varieties, plant, harvest and market agriculture products.
4. Care for livestock, as required on a day-to-day basis.
5. Safely operate farm tractors, calibrate and maintain farm equipment, and attachments.

EMPLOYMENT OPPORTUNITIES
The province's agriculture industry is a significant contributor to the economy of rural Newfoundland and Labrador. The industry includes approximately 550 farms and 100 manufacturers with farm receipts totaling $140 million. During peak season, the agriculture industry employs 4000 people. Agriculture Technicians can work with Provincial and Federal Governments, existing agriculture operations or develop their own farming enterprise.

ENTRANCE REQUIREMENTS
Academic:
Eligibility for admission to the Agriculture Technician Diploma program requires the applicant to meet one of the following four academic criteria:
1. High School
Provincial High School Graduation Certificate with a 60% average in nine level 3000 credits or equivalent.
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile) with an average pass mark of 60%
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program must be at least 19 years of age at the time of application and out of school for at least one (1) year to be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

CERTIFICATIONS

In addition to the formal courses listed in the program of studies, students in the Agriculture Technician program are required to complete or obtain valid certification in the following areas upon graduation:

Standard First Aid & CPR/AED
ATV Training
WHMIS/OHS
Chainsaw Safety

SPECIAL REQUIREMENTS

NOTE: Students should be aware that additional fees apply for certifications, field trips/tours. Additional expenses will be necessary for the purchase of items of clothing required for scheduled labs and outdoor work.

Fish and Wildlife Technician

DIPLOMA

• **Two Years**
• **September**
• **Corner Brook Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
BL1120	Biology I	3	2	3
CM1400	Technical Report Writing I	3	3	0
EN2120	Environmental Citizenship	3	3	0
MA1100	Mathematics	5	4	2
MC1080	Introduction to Computers	2	2	0
SU1150	Field Navigation	3	2	3
GE1420	Physical Environments	3	2	3

*Admission into the appropriate Mathematics course will be decided by the grade in High School math.

Students who received a combined average of 70% in high school Academic Mathematics 2201 and 3201, or a pass in both high school Advanced Mathematics 2200 and 3200 can be exempted from MA 1100 Mathematics. Students must apply for the exemption.

Semester 2		**Cr**	**Le**	**La**
CM1401	Technical Report Writing II	3	3	0
CS2630	Wilderness Survival	1	1	1
FR1330	Natural Resource Measurements I	3	2	3
BL1400	Fish and Wildlife Biology	4	3	2
EY2210	Silvics/Dendrology I	3	2	3
MA1670	Statistics	4	4	1
SU3210	Geographic Information Systems	2	1	3

Semester 3 (Intersession I)		**Cr**	**Le**	**La**
FT1410	Fish & Wildlife Field Camp	P/F	2 wks	
RM1400	Wildlife Techniques I	4	3	2
RM1500	Fisheries Techniques I	4	3	2

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length. Refer to course outline.

Semester 4		**Cr**	**Le**	**La**
EY1200	Ecosystem Ecology	2	1	3
FT1430	Fish and Wildlife Camp II	P/F	1 wk	
LW2210	Natural Resources Policy and Law	4	4	0
RM1401	Wildlife Techniques II	3	2	2
RM1501	Fisheries Techniques II	3	2	2
RM2200	Habitat Assessment	3	2	3
SU1710	Forest Surveying	3	2	3
SU1575	Remote Sensing Applications for Natural Resources	3	2	3

Semester 5		**Cr**	**Le**	**La**
EY2510	Population Ecology	3	2	2
HR2200	Human Relations	2	1	2
LW2211	Law Enforcement	4	3	2
PR2660	Technical Project and Presentation	2	1	2
RM2420	Habitat Management	3	2	2
RM2410	Wildlife Techniques III	3	2	2
RM2500	Fisheries Techniques III	3	2	2

Semester 6   **Cr**   **Le**   **La**
OJ1301   On-the-Job Training   P/F 3 wks

Students graduating from the Fish and Wildlife Technician program can complete the Forest Resources Technician program with one additional year. Interested students must begin their studies in the First Technical Intersession of the Forest Resources Technician program.

With increasing emphasis on sustainable development, integrated resource management policy and ecosystem based management across Canada and around the world, technicians in the natural resources sector must have a foundation in matters related to biodiversity in general and fish and wildlife management issues in particular. The two-year Fish and Wildlife Technician program, which shares many courses with the Forest Resources Technician program, is designed to enable students with a specific interest in fish and wildlife to participate in studies directed towards their career goals. The program reflects the trend towards integrating a wide range of natural resources technology within government departments at Federal and Provincial levels. The requirement for the forest industry to consider wildlife in its management practices and the increased monitoring and management of freshwater and marine resources highlights the need for this program. The program provides a balance of field and classroom experiences that include a significant computer based data collection and analysis component.

OBJECTIVES
Upon successful completion of the Fish and Wildlife Technician program, graduates of the program will have the knowledge and skills to be able to:

1.   Actively participate in the solution of fish and wildlife management problems and challenges.
2.   Identify forest ecosystem challenges and opportunities and to undertake such assessments, preventive measures and treatments as might be associated with fish and wildlife conservation and management.
3.   Utilize a wide range of field and office equipment and techniques associated with the assessment and analysis of fish and wildlife resources data.
4.   Pursue continued learning experiences at the post graduate level.

EMPLOYMENT OPPORTUNITIES
Graduates of this program may obtain employment throughout Canada in a variety of fish and wildlife related fields: protection and enforcement, resource inventory and site classification, habitat protection and improvement, environmental impact assessment and parks and interpretation programs. Graduates are employed with governmental and private agencies in fields ranging from forestry technicians to fisheries observers.

PROGRAM TRANSFERABILITY
Graduates of the Fish and Wildlife Technician program, who wish to pursue additional post-secondary studies, can apply for entry with advanced standing at a number of Canadian Universities that the college has established credit transfer agreements with. Please refer to the NL Department of Education's transfer guide (www.cna.nl.ca/transfer), or contact your intended university or college.

ACCREDITATION AND RECOGNITION
To ensure a consistently high standard of training and education, College of the North Atlantic's Fish and Wildlife Technician program is accredited by the North American Wildlife Technology Association (NATWA).

CERTIFICATIONS
In addition to the formal semester courses listed in the program of studies, students in the Fish and Wildlife Technician program are required to obtain certification in the following areas over the two-year period of study:
Chainsaw Safety
Canadian Firearm Safety Course / Hunter Education
Pleasure Craft Operators Card
WHMIS/OHS
ATV Safety Training
Wilderness First Aid
Snowmobile Safety

NOTE: Students should be aware that additional fees and expenses apply for most of these certifications and for field camps, tours and On-the-Job Training. Students will be required to hold valid certifications for the above courses prior to graduation.

ENTRANCE REQUIREMENTS
Academic:
Eligibility for admission to the program requires the applicant to meet one of the following four academic criteria:

1. High School

High School Graduation Certificate with a 60% overall average in the following (or equivalent):

i. English (2 credits) (minimum 60%) from: 3201 or 3202

ii. Mathematics (4 credits) chosen from:

  Advanced: 2200, 3200 (50% minimum in each course)

  Academic: 2201 (50% minimum), 3201 (60% minimum)

Note: Students who received a combined average of 70% in high school Academic Mathematics 2201 and 3201, or a pass in both high school Advanced Mathematics 2200 and 3200 can be exempted from Math 1100. Students must apply for the exemption.

iii. Science – (4 credits) two of which must be chosen from:

  Biology: 3201

  Physics: 3204

  Chemistry: 3202

  Earth Systems: 3209

  Environmental Science 3205

2. Comprehensive Arts and Science (CAS) Transition

Comprehensive Arts and Science (Transition) Certificate with the following courses:

i. Math : MA1040, MA1041

ii. Two Science courses chosen from one of the following three combinations:

a. Biology: BL1020, BL1021

b. Chemistry: CH1030, CH1031

c. Physics: PH1050, PH1051

Note: It is strongly recommended that CAS students who intend to enroll in the Fish and Wildlife, Forest Resources Technician, Natural Resources Technician or Northern Natural Resources Technician program complete BL1020 and BL1021.

3. Adult Basic Education (ABE)

Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):

i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C

ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C

iii. Science from one of the following sections:

a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C

b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C

c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C

Applicants with Adult Basic Education (Level III) Graduation with a different Profile (and appropriate grades) may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.

4. Mature Student Requirements

Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to Procedure AC-102-PR Admission.

5. International Applicants – English Proficiency

All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).

If a language proficiency test other than those referenced above was used, applicants can forward for assessment.

If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.

Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

SPECIAL REQUIREMENTS

Because of the extensive field exposure incorporated in this program, students are required to acquire the following equipment and clothing: compass, axe, snowshoes, rubber boots, hiking boots, chest wader, good quality rainwear, neoprene gloves and other clothing appropriate for outdoor work.

NOTE: Participation in activities that are physically demanding will be required due to the extensive field components incorporated into this program.

Forest Resources Technician

DIPLOMA
- **Two Years**
- **September**
- **Corner Brook Campus**

COURSES

CODE	TITLE	Hrs/wk		

Semester 1		Cr	Le	La
BL1120	Biology I	3	2	3
CM1400	Technical Report Writing I	3	3	0
EN2120	Environmental Citizenship	3	3	0
MA1100	Mathematics I	5	4	2
MC1080	Introduction to Computers	2	2	0
SU1150	Field Navigation	3	2	3
SU1710	Forest Surveying	3	2	3

*Admission into the appropriate Mathematics course will be decided by the grade in High School math.

Students who received a combined average of 70% in high school Academic Mathematics 2201 and 3201, or a pass in both high school Advanced Mathematics 2200 and 3200 can be exempted from MA 1100 Mathematics. Students must apply for the exemption.

Semester 2		Cr	Le	La
CM1401	Technical Report Writing II	3	3	0
EY2210	Silvics/Dendrology I	3	2	3
FR1330	Natural Resource Measurements I	3	2	3
FR1400	Wood Products	2	1	2
MA1670	Statistics	4	4	1
SU3210	Geographic Information Systems (GIS)	2	1	3
LW2210	Natural Resources Policy & Law	4	4	0

Semester 3 (Intersession I)		Cr	Le	La
FR1230	Forest Fire Management	3	2	3
FR2340	Hydrology	3	2	2
FT1400	Forestry Field Camp	P/F	2 wks	

The Course and Lab hours per week are based on a 15 week semester. In intersession, the Course and Lab hours will be adjusted to reflect the shorter semester length.

Semester 4		Cr	Le	La
EY2211	Silvics/Dendrology II	3	2	2
FR1560	Timber Harvesting I	2	1	2
FR1331	Natural Resource Measurements II	2	1	3
FR2350	Forest Entomology/Pathology	3	2	3
FR2360	Silviculture	3	2	3
FT1401	Forestry Camp/Tour	P/F	1 wk	
GE1300	Forest Soils	3	2	3
SU1575	Remote Sensing Applications for Natural Resources	3	2	3

Semester 5		Cr	Le	La
FR1561	Timber Harvesting II	4	3	3
FR2430	Wildlife Management	3	2	3
HR2200	Human Relations	2	1	2
LW2211	Law Enforcement	4	3	2
MN1800	Integrated Resource Management	4	3	3
PR2660	Technical Project & Presentation	2	1	2

Semester 6 (Intersession II)	**Cr**	**Le**	**La**
OJ1300 On-the-Job Training	P/F	3 wks	

Students graduating from the Forest Resources Technician program can complete the Fish and Wildlife program with one additional year. Interested students must begin their studies in the first Technical Intersession of the Fish and Wildlife Technician program.

The Forest Resources Technician program provides a strong foundation in the skills and knowledge required for a career in the natural resources industry. The program strives for innovative training that reaches beyond the classroom with a strong emphasis on "real life" experiences. Students will be versed in ecosystem management opportunities and challenges and they will be able to use their acquired skills to evaluate and present sustainable management solutions. The program may also inspire individuals to pursue further studies in forestry or other related areas of concentration.

OBJECTIVES
Upon successful completion of the Forest Resources Technician program, graduates will be able to:

1. Demonstrate the knowledge, skills and attitudes required to participate in finding solutions to forest management problems and challenges.
2. Identify forest ecosystem issues, challenges and alternate solutions.
3. Demonstrate assessment and evaluation techniques involved in forest resource protection, management and utilization.
4. Identify current preventive measures, treatments and practices used in forest resource protection, management and utilization.
5. Demonstrate effective procedures and practices in the use of field and office equipment to assess and analyze natural resources data.

EMPLOYMENT OPPORTUNITIES
Graduates of this nationally accredited program may obtain employment throughout Canada in a variety of forestry related fields: protection and enforcement, forest inventory and site classification, logging and engineering, forest access road construction and maintenance, silviculture as well as parks, wildlife and environmental assessment. This program has an established reputation for supplying graduates to employers all across Canada.

PROGRAM TRANSFERABILITY
Graduates of the Forest Resources Technician program, who wish to pursue post-secondary studies, can apply for entry with advanced standing at a number of Canadian Universities that the College has established credit transfer agreements with. Please refer to the NL Department of Education's transfer guide (www.cna.nl.ca/transfer), or contact your intended university or college.

ACCREDITATION AND RECOGNITION
To ensure the benefits of a consistently high standard of education, the College of the North Atlantic's Forest Resources Technician program is nationally accredited by the Canadian Technology Accreditation Board (CTAB).

CERTIFICATIONS
In addition to the formal semester courses listed in the program of studies, students in the Forestry Resources Technician program are required to obtain certification in the following areas over the two-year period of study:
Chainsaw Safety
ATV Safety Training
Canadian Firearm Safety Course / Hunter Education
Pleasure Craft Operators Card
Scaling
Standard First Aid & CPR/AED
WHMIS/OHS
Snowmobile Safety
Wilderness First Aid

Note: Students should be aware that additional fees and expenses apply for certifications and for field camps, tours and On-the-Job Training. Students will be required to hold valid certifications for the above courses prior to graduation.

ENTRANCE REQUIREMENTS
Academic:
Eligibility for admission to the program requires the applicant to meet one of the following four academic criteria:

1. High School
High School Graduation Certificate with a 60% overall average in the following (or equivalent):
i. English (2 credits) (minimum 60%) from: 3201 or 3202
ii. Mathematics (4 credits) chosen from:
    Advanced: 2200, 3200 (50% minimum in each course)
    Academic: 2201 (50% minimum), 3201 (60% minimum)
Note: Students who received a combined average of 70% in high school Academic Mathematics 2201 and 3201, or a pass in both high school Advanced Mathematics 2200 and 3200 can be exempted from Math 1100. <u>Students must apply for the exemption</u>.
iii. Science – (4 credits) two of which must be chosen from:
   Biology: 3201
   Physics: 3204
   Chemistry: 3202
   Earth Systems: 3209
   Environmental Science 3205
2. Comprehensive Arts and Science (CAS) Transition
Comprehensive Arts and Science (Transition) Certificate with the following courses:
i. Math : MA1040, MA1041
ii. Two Science courses chosen from two of the following three combinations:
   a. Biology: BL1020, BL1021
   b. Chemistry: CH1030, CH1031
   c. Physics: PH1050, PH1051
Note: It is strongly recommended that CAS students who intend to enroll in the Fish and Wildlife, Forest Resources Technician, Natural Resources Technician or Northern Natural Resources Technician program complete BL1020 and BL1021.
3. Adult Basic Education (ABE)
Adult Basic Education (Level III) Graduation with Degree and Technical Profile including the following courses (or equivalent):
i. English 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics 1101A, 1101B, 1101C, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
iii. Science from one of the following sections:
   a. Biology 1101, 2101A, 2101B, 2101C, 3101A, 3101B, 3101C
   b. Chemistry 1102, 2102A, 2102B, 2102C, 3102A, 3102B, 3102C
   c. Physics 1104, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
Applicants with Adult Basic Education (Level III) Graduation with a different Profile (and appropriate grades) may be eligible for admission to the program provided the appropriate selection of courses including those outlined above have been completed.
4. Mature Student Requirements
Applicants who do not meet the education prerequisites for this program, are 19 years at the time of application and out of school for at least one year may be considered on an individual basis under the Mature Student Requirements; for more information regarding the Mature Student Requirements please refer to <u>Procedure AC-102-PR Admission</u>.
5. International Applicants – English Proficiency
All international applicants must meet the College's English language proficiency requirements for acceptance into regular programs. The College will accept these recognized tests of English language proficiency (TOEFL paper based 550, TOEFL Internet based 79, TOEFL computer based 213 or equivalent, IELTS Academic Test overall band score of 6.0, or Pearson PTE 53 or greater, etc.).
If a language proficiency test other than those referenced above was used, applicants can forward for assessment.
If an international applicant has attended an educational institution (high school or post-secondary) for a period of three years or more where the official language of instruction was English, the English language proficiency test will not be required.
Note: Some programs may require specific English language requirements and proficiency scores that differ from those stated above; therefore international applicants are advised to please refer to the specific program admission requirements as identified in the College Calendar.

SPECIAL REQUIREMENTS
Because of the extensive field exposure incorporated in this program, the student is required to acquire the following equipment and clothing: hard hat, compass, axe, snowshoes, logger boots, good quality rainwear, and other clothing appropriate for outdoor work.

Note: Participation in activities that are physically demanding will be required due to the extensive field components incorporated into this program.

GIS Applications Specialist

POST DIPLOMA

• **One Year**

• **September**

• **Corner Brook Campus**

COURSES

CODE	TITLE	Hrs/wk		
Semester 1		**Cr**	**Le**	**La**
GS1110	Cartographic Concepts	3	2	2
GS1210	GIS Database Principles	2	1	2
GS1320	Principles of GIS	3	2	2
GS1410	Problem Solving and Programming	3	2	3
GS1510	Remote Sensing and Image Analysis	2	1	3
GS2100	Open Source GIS and Data Management Tools	3	2	2
GS2512	Spatial Statistics	3	2	2
Semester 2		**Cr**	**Le**	**La**
GS2110	Customization of GIS Applications	3	2	2
GS2210	Database Design and Development	2	1	2
GS2410	Spatial Analysis and Applications	3	2	2
GS2310	Project Planning and Management	2	1	2
GS2710	Web GIS Development	3	2	2
GS2911	Advanced Remote Sensing	3	2	2
GS3410	Spatial Database Applications	3	2	3
Semester 3 (Intersession)		**Cr**	**Le**	**La**
GS3110	Advanced Topics in Geomatics	2	1	2
GS1610	Surveying and Mapping	3	2	3
GS3210	Major GIS Project	5	3	6

The GIS Applications Specialist is the "expert" who provides technical expertise to produce and analyze spatial information for effective planning and reporting activities in a broad range of disciplines. Specifically, a GIS Applications Specialist will help various agencies and government to effectively apply Geographic Information Systems (GIS), remote sensing, Global Positioning Systems (GPS), internet mapping solutions and data visualization technologies to support informational needs, workflows or business processes. GIS Applications Specialists can work in various Sectors; the current market for GIS Applications Specialists in Newfoundland and Labrador includes: various provincial and federal departments, crown corporations, municipalities, research agencies, post-secondary institutions and private corporations.

This post-graduate, intensive, three-semester GIS program utilizes current high-end technology tools to collect, store, manipulate, analyze, interpret, and communicate geographic information within a variety of disciplines. The students will be versed in several spatial computing technologies used in the industry today and have access to the latest in appropriate computer hardware, software, and field technology. Students will have considerable opportunities to practice their skills in a work-life setting by putting theory into practice.

OBJECTIVES

Upon successful completion of the GIS Applications Specialist (Post Diploma) program, graduates will be able to:

1. Develop and implement solutions to computational problems. Students will be exposed to problem analysis techniques and solution development using top-down development method, modular design approach, and object-oriented design concepts. To implement developed solutions, students will use Microsoft Visual Studio.
2. Develop and apply skills for the effective presentation of geographic information using software typically encountered in a GIS working environment.
3. Perform the techniques of gathering geographic related information from the field or existing maps or records and positioning them onto a framework of existing spatial data structures.

4. Apply fundamental principles of database processing with respect to GIS environments and develop skills in designing, implementing and managing databases.
5. Pursue subsequent studies in GIS applications in various program areas. As well, the techniques learned will allow students to apply the knowledge and skills to develop simple to elaborate good practice applications with some theory relating to Vector GIS technology.
6. Analyze geographic data using hypothesis testing, significance tests, descriptive and inferential statistics.
7. Design and implement a GIS application that addresses predefined objectives. During this process, the student will apply their knowledge and skills and rely on each other, with guidance from faculty, to acquire new skills to solve GIS problems.
8. Demonstrate GIS skills to include web-based GIS applications. The student will learn how to build web-based GIS applications to contribute to the world of Distributed Geographic Information.
9. Design efficient and user-friendly graphical interfaces and integrate Microsoft Windows-based software in the development of GIS applications.
10. Design GIS applications based on the integration of programming languages, database management systems and GIS software to achieve the most efficient data access, manipulation and presentation.

ENTRANCE REQUIREMENTS
Applicants must have graduated from a recognized college or university with a diploma and/or degree in a relevant program area. Related program areas include, but are not limited to forestry, natural resource sciences, engineering, environmental studies, geology, surveying, geography, business, municipal planning and law enforcement.

EMPLOYMENT OPPORTUNITIES
Program graduates are prepared to work in positions as diverse as GIS programmers/analysts, applications specialists/consultants, ecosystem IT managers, utilities managers, database managers, GIS systems operators, and land information managers.

SPECIAL REQUIREMENTS
The program incorporates a Major Geographic Information Systems Project establishing industry-student linkages. Students will have considerable opportunities to practice their skills in a work-life setting by putting theory into practice.

Course

Descriptions

AC1100 - Bookkeeping I •
Bookkeeping I is a study of the fundamental principles and mechanics of bookkeeping, including the recording, classifying, and summarizing of financial data for a service business. The course also includes the control of cash and petty cash, banking procedures, and completing the accounting cycle. This course emphasizes the national accounting standards (private enterprise Generally Accepted Accounting Principles – GAAP).

AC1120 - Computerized Bookkeeping I
Accounting is a study of the fundamental principles and mechanics of bookkeeping, including the recording, classifying and summarizing of financial data for the service industry. This course also includes the preparation of basic financial statements, control of petty cash, the preparation of bank reconciliations, and payroll.

AC1260 - Financial Accounting I •
This course introduces the student to accounting concepts, including: the basics of the double-entry accounting system including adjusting entries; financial statement preparation; accounting for payroll; accounting for a merchandising company; and the basics of the internal control of cash. This course emphasizes the national accounting standards (private enterprise GAAP).

AC1350 - Income Tax •
The student is introduced to the basic principles of the Canadian Income Tax. Emphasis is placed on computing taxable income and taxes payable for individuals. The course includes basic tax planning ideas for individuals.
Prerequisite(s): AC2260

AC2100 - Bookkeeping II •
Bookkeeping II involves the application of accounts receivable and accounts payable, and the study and application of the generally accepted accounting principles within merchandising firms. The course involves using special journals, end-of-the-year adjustments for depreciation, accruals, bad debts, closing entries, financial statements, and payroll. This course emphasizes the national accounting standards (private enterprise Generally Accepted Accounting Principles – GAAP).
Prerequisite(s): AC1100

AC2220 - Intermediate Financial Accounting I •
This course is designed to build on the knowledge the student obtained in Financial Accounting I and II. Its focus is on the asset side of the Balance Sheet, providing an in-depth study of current assets, property, plant and equipment, and intangible assets. The recognition and measurement of revenues and expenses are also covered.
Prerequisite(s): AC2260, MC1242

AC2230 - Computerized Accounting I •
This course introduces the student to the elements of integrated computerized financial accounting software (such as Simply Accounting by Sage). The student will explore integrated software systems, general ledger, payables, receivables, payroll and inventory. The student will have the opportunity to apply the skills through various applications.

Prerequisite(s): AC1260 or AC2100

AC2231 - Computerized Accounting II
This course completes the study of computerized accounting systems started in AC2230 Computerized Accounting I. The student will learn how to use computerized accounting software to: perform bank reconciliations, enter foreign currency transactions, perform project allocations, budgeting, departmental accounting, timing and billing. Furthermore the student will learn to use spreadsheets for analyzing, planning and decision making for intermediate accounting and managerial accounting content through the use of comprehensive case studies and simulations.
Prerequisite(s): AC2230

AC2250 - Managerial Accounting I •
This course is designed to provide the student with knowledge in accounting techniques required by management for planning and control, decision making, performance evaluation and preparation of internal reports.
Prerequisite(s): AC2260, MC1242

AC2260 - Financial Accounting II •
This course introduces the student to the principles and procedures needed to account for long-term assets (including capital assets, intangible assets, and investments), liabilities, and equities, and to the concepts of financial reporting and decision making for both partnerships and corporations. In this course the student will explore property, plant, equipment &intangibles; current and long-term liabilities; partnership accounting; corporate organization, transactions and reporting; bonds as liabilities and investments; equity investments; statement of cash flows; and analyzing financial statements. This course emphasizes the national accounting standards (private enterprise GAAP).
Prerequisite(s): AC1260

AC2280 - Accounting

The course is designed to provide a working knowledge of the fundamentals of financial and managerial accounting that can be useful for the graduate industrial technologist in understanding, interpreting, and preparing financial statements. Basic principles of managerial accounting including cost behaviour, cost systems, and cost-volume relationships are investigated. The focus will be on the extraction of relevant information from accounting data and how this information can be used in engineering decision making and budget preparation.

AC2340 - Principles of Auditing

This course is designed to provide an introduction to auditing for accounting students who do not have significant auditing or accounting experience. The course is a practical guide to both auditing theory and practice.
Prerequisite(s): AC3220

AC2360 - Principles of Internal Auditing

This course is designed to provide an introduction to auditing for accounting students who do not have significant auditing or accounting experience. The course is a practical guide to both auditing theory and practice. The course will introduce students to the practice of internal audit and the auditor's decision-making process.
Prerequisite(s): AC2220
Co-requisite(s): AC3220

AC2540 - Oil and Gas Production Accounting

This course will provide students with an overview of the development of the oil and gas industry, from inception to modern practices and from the reservoir to refining and the role which the production accountant plays in accounting for oil and gas. This will enable students to understand and communicate effectively with professionals in the oil and gas industry and to understand and apply the accounting concepts.
Prerequisite(s): AC2260

AC2600 - Managerial Accounting for Human Resource Managers •

This course is designed to introduce the student to the accounting techniques needed by management for planning and control, decision making, performance evaluation and preparation of internal reports. The student will explore basic concepts of managerial accounting; departmental, project and program cost allocation; budgeting and control; control through standard costs; flexible budgets and overhead analysis; control of decentralized operations; and pricing of products and services. The student will have the opportunity to apply their skills through practical learning.
Prerequisite(s): AC2260

AC3220 - Intermediate Financial Accounting II •

This course is a continuation of the study of the principles and procedures covered in the previous semester of Intermediate Financial Accounting. The content presents an in-depth study of the liabilities and owner's equity side of the Statement of Financial Position; there is also an in-depth study of the Statement of Cash Flows.
Prerequisite(s): AC2220

AC3250 - Managerial Accounting II •

This course is designed to build on the knowledge gained in Managerial Accounting I by having the student apply their previous knowledge of cost behaviour to specialized areas of cost and management accounting including budgeting, standard costing, relevant cost analysis, pricing of products and services, and capital budgeting.
Prerequisite(s): AC2250

AC3251 - Managerial Accounting III

Managerial accounting involves the internal generation, communication, and interpretation of information for both operational and strategic decision-making purposes. This course is designed to provide the student with knowledge in accounting techniques required by management for planning and control, decision making, performance evaluation and preparation of internal reports. Increased focus on how modern cost management and cost performance measurement techniques can be used in the strategic function of business. Critical thinking and a strategic approach to cost accounting are now given greater prominence alongside the technical coverage.
Prerequisite(s): AC3250

AC3270 - Payroll and Commodity Taxes

This course introduces the basic principles of payroll administration and of commodity taxes. The student will be able to account for and file the required reports for payroll and commodity taxes.
Prerequisite(s): AC2230

AC3275 - Corporate Tax and Remittance

This course will explore the principles of the Canadian Income Tax for Corporations. Emphasis is placed on computing taxable income and taxes payable for corporations. The course includes c tax planning ideas for individuals and corporations.
Prerequisite(s): AC1350
Co-requisite(s): AC3220

AC3285 - Accounting Systems
This course lays the foundation for accounting students to make decisions regarding the computerized information system. This course introduces key concepts regarding information systems, such as business processes, documentation, internal control, system development and databases. It equips them with essential knowledge to contribute value to their future employers.
Prerequisite(s): AC3220, AC2231

AE1240 - Electronic Devices
This course will include the description, operation and application of simple electronic components with reference to semiconductor theory. The PN Junction Diode, Bipolar Junction Transistor, MOSFET, and some other devices will be introduced. Analysis techniques will be introduced for linear power supplies and transistor amplifier circuits.
Prerequisite(s): ET1101

AE1265 - Analog Electronics
This course introduces the student to solid state electronics. The purpose of this course is to provide the student with an understanding of the operation of transistor and operational amplifier circuits. The theory covered in class will be applied and validated during the laboratory periods.

AE2260 - Electronic Power Devices and Circuits
This course will include three-phase rectification and the analysis, operation and application of op amps and power amplifiers. Power MOSFETs and various thyristors will also be introduced with applications for power control.
Prerequisite(s): AE1240

AE2330 - Analog Electronics I
This course will include the description, operation, and application of simple electronic components and their use in linear power supplies, small signal amplifiers, and power amplifiers. An introduction to frequency response is also covered. Design and troubleshooting skills are emphasized.
Co-requisite(s): MP2140

AE2331 - Analog Electronics II
This course provides further study of transistor amplifiers, with emphasis on frequency response characteristics. Also included is a study of oscillators and power control using thyristors.
Prerequisite(s): AE2330

AE2360 - Analog Electronics I
This course will include the description, operation, and application of fundamental electronic components with particular emphasis on semiconductor theory. Analysis of electronic circuits utilizing diode equivalent circuits will be introduced, and expanded to bipolar transistor DC biasing and the analysis of amplifier systems.
Prerequisite(s): ET1140

AE2365 - Analog Electronics II
This course is a detailed examination of analog applications of advanced transistor circuits and operational amplifiers, with emphasis on circuit analysis, applications, circuit simulation, and troubleshooting. Also included is the analysis and troubleshooting of IC power supply linear and switching regulators, as well as thyristors and representative power control circuits.
Prerequisite(s): AE2360

AE3130 - Active Circuit Applications
The purpose of this course is to provide the learner with an understanding of the operation of integrated circuit amplifier circuits, active filters, and switching power supplies. The theory covered in class will be applied and validated during the laboratory periods.
Prerequisite(s): AE2330

AE3300 - Industrial Electronics
This course is designed to introduce the student to the various types of motor and power control devices. This will provide the student with an understanding of the electronic components and systems used to control discrete industrial processes and variable speed drives. Also, it will provide the fundamental concepts and application of programmable logic controllers.
Prerequisite(s): AE2365

AE3301 - Process Control
This course will introduce the student to various types of open-loop and closed-loop feedback control and will provide the student with an understanding of the components and systems which are used to control industrial processes.
Prerequisite(s): AE3300

AF1130 - Aircraft Structures and Materials (M, E, S)
This M, E, and S course will provide the student with the knowledge of aircraft structural design and the materials and processes used in their construction. The student will be introduced to stresses acting on aircraft structures and will be able to determine the urgency of repair when damaged.

AF1170 - EASA Module 11 (A) Top Up

This course is designed to cover items from EASA module 11A that were not contained in the Aircraft Maintenance Engineering Technician program. The students will receive instruction in; doors and emergency exits, air supply, cabin equipment and furnishings along with water and waste systems.

AF1180 - EASA Module 11 (A) New Technologies

This course is designed to cover items from EASA module 11A that were not contained in the Aircraft Maintenance Engineering Technician program. The students will receive instruction in integrated modular avionics and cabin systems.

AF1190 - EASA Module 11 (A) Refresher

This course is designed to prepare the student to write the EASA module exam for module 11A, through the use of practice exercises and review lessons.

AF1220 - Aircraft Structure - Wood, Tubular and Fabric (S)

This S course provides an introduction into inspection and repair procedures of aircraft wood, tubular and fabric structures. This includes their design, construction and the stresses affecting them.

AF1240 - Aircraft Structural Repair (M, E, S)

This M, E, & S course will provide the student the knowledge and skill in the principles of aircraft structural repair using different types of sheet metal forming processes, materials, fasteners, and equipment.
Prerequisite(s): AF1130

AF1250 - Aircraft Stress Skin Repair (S)

This S course will develop the students' knowledge and skill to repair damaged stressed skin structures by patching and spot welding.
Prerequisite(s): AF1240

AF1270 - Composite Materials (M, S)

This M and S course will provide the students with the knowledge to identify composite materials and the skill inspect them for damage and perform an effective repair when required.

AF1280 - Stress Skin Repair or Modification (M, E)

This M and E course will provide the student with the skill to perform a stress skin repair or antenna installation on an aircraft. The course will involve damage assessment, designing and installing a stress skin repair or installing an antenna including an internal reinforcement doubler. The student will perform corrosion preventing processes and install the stress skin repair or antenna as per standard practices.
Prerequisite(s): AF1240
Co-requisite(s): GM1570

AF1290 - Non Metallic Structures (M)

This M course will provide the student with the knowledge of aircraft windows and lenses and the required inspection, repair, maintenance and installation methods. The course will also provide an introduction into the construction, inspection and repair procedures for aircraft fabric and aircraft wood structures.

AF1340 - Advanced Composite Repair (S)

This S advanced level course will reinforce the students' knowledge and skill to apply advanced composite fabrication techniques, identify advanced composite structural damage, complete a full damage assessment, and perform an effective structural repair as per Canadian Aviation Regulatory or aircraft manufacturer's standards.
Prerequisite(s): AF1270

AF1400 - Specialized Processes and Fixtures (S)

This S course will provide the students with the knowledge and skill to be able to select and manufacture jigs and holding fixtures, perform special metal treatment processes and repair forgings and extrusions as per manufacturer's specifications.

AF1500 - Windshields, Windows and Lenses (S)

This (S) course will provide the students with the knowledge and skill to identify various types of aircraft windshields, windows and lenses, inspect them for damage and evaluate whether repair or replacement is required. The student will manufacture an aircraft window to fit aircraft structure and install it. The student will also perform proper maintenance and repairs to windshields, windows and lenses.

AF2110 - Aircraft Maintenance Fundamentals (S)

This course is designed to provide the Aircraft Structural Repair student with the knowledge of Aircraft Maintenance fundamentals.
Prerequisite(s): GM1120

AG1100 - Sustainable Agriculture & the Food System

This course will explore current agriculture issues and trends in the industry. Major topics include agriculture sustainability, farm succession, research and technology, new crops, food safety and growing the business.

AG1120 - Agriculture Safety/Field Exposure
This course will introduce students to the hazards associated with the agriculture workplace and the skills necessary to avoid injury. Major topics include workplace risk assessment, pesticide storage and handling, fire prevention, transportation of dangerous goods, flammable material storage, silo safety, agriculture equipment, transporting and trailering, loading and securing cargo, agriculture road safety and product and machinery safety.

AG1200 - The Business of Agriculture
This course will introduce the student to the overall management and operation of the farm business incorporating all aspects such as planning, organizing, and managing. Major topics include business set-up, farming regulations, farm estate planning and decision making for risk management.

AG1240 - Agriculture Sales and Marketing
This course examines the common practices of selling and marketing agriculture products. Major topics include, buying decisions, sales presentations, sales planning, marketing, online marketing platforms and leadership techniques.

AG1300 - Farm Equipment Operation I
This course will introduce the student to the operation of various pieces of equipment used on the farm. Major topics include safe operation and maintenance of field equipment, farm tractor operation, farm tools, farm attachments and operation, ATV operation, trailering and field camp.

AG1305 - Greenhouse Production
This course introduces students plant production within a greenhouse environment. Major topics include: common greenhouse crops, aspects of greenhouse environment, greenhouse design, insects and diseases, technology and automation.

AG1350 - Farm Facilities
Students will be introduced to farm facilities. Major topics include farming facilities, farm building design, farm planning, land survey and procurement, construction materials, building types, cost estimation, farm water systems, energy systems, waste management, feed storage and ventilation.

AG1400 - General Agronomy
This course introduces the student to plant, animal and soil science. Major topics include plant morphology, plant physiology, animal science, animal husbandry, basic research, soil science and agriculture production.

AG1430 - Precision Farming
This course introduces students to precision farming techniques. Major topics include Differential Global Positioning System (DGPS) receivers, yield monitors, variable rate application equipment, field scouting computers, crop data management, Geographical Information Systems (GIS), profit maps and prescription maps.

AG1500 - Livestock Genetics
This basic genetics course will provide a background for genetics, family blood lines and the breeding of animals. Major topics include heredity traits, economic breeding, selection principles, pedigree charts and systematic breeding.

AG1510 - Animal Care
This course will introduce the student to the care of large animals in a field setting. Major topics include handler safety, humane treatment, animal housing and animal welfare and ethics.

AG1520 - Ruminant Production: Beef, Sheep & Goats
This course introduces the student to day-to-day duties, planning and strategic management of beef, sheep and goats. Topics include cow and calf management, calving, livestock management and modern herd management.

AG1530 - Livestock Diseases
Students will be introduced to livestock diseases in farm animals, including infectious disease transmission, clinical signs, and control. Major topics include immunology, vaccinations, preventative maintenance, pharmacological basics, drug handling and administration, pharmaceuticals safety and withdrawal times.

AG1540 - Non-Ruminant Production: Swine, Honeybee and Fur Production
This course deals with swine, honeybee and fur production. Major topics include nutrition basics, housing and environment, health management, husbandry, breeding, predator control, slaughter and marketing.

AG1550 - Poultry and Egg Production
This course deals with poultry and egg production. Major topics include poultry and egg production, breeding, and marketing.

AG1560 - Dairy Production
Students will be introduced to the study of dairy cattle. Major topics include the anatomy of the udder, physiology of milk production, equipment, nutrition, record keeping, dairy herd improvement, sanitation and economics.

AG1570 - Livestock Nutrition
This course will introduce students to livestock nutrition. Major topics include nutrient requirements and function, at various stages of life, nutrient formulations for beef, dairy, hog, horses, poultry, fur farming, nutrient honeybees, and goats, feeding programs and available and alternate feeds.

AG1600 - Vegetable and Fruit Production
This course introduces the student to vegetable and fruit production. Major topics include traditional vegetables, non-traditional vegetables, small fruit production, native fruit production, orchard development, controlled environment production and season extension.

AG1620 - Field Crops
This course will focus on the basics of plant taxonomy and the production of field crops including grain, silage and oil seed crops. Major topics include plant taxonomy, production, plant growth, best practices for field crops and environmental factors and influences.

AG1640 - Tillage and Planting
The student will be introduced to tillage and direct seeding. Major topics include tillage, planting, fertilization, equipment calibration and equipment operation.

AG1700 - Nutrient Management
This course will introduce students to nutrient requirements for field crop production. Major topics include plant nutrient requirements, nutrient sources, methods of nutrient and soil amendment applications, chemical and physical properties of fertilizers, soil amendments, nutrient availability, nutrient loss, and soil analysis and report interpretation.

AG1720 - Weed Management
Students will be introduced to weed management techniques. Major topics include biology of weeds, weed ecology, weed identification, cultural management of weeds, biological and chemical management practices, chemical properties and function of herbicides, application techniques and herbicide handling.

AG1740 - Crop Insects and Diseases
This course introduces students to crop insects and diseases. Major topics include crop insects, crop diseases, insect and disease life cycles, and cultural, biological and chemical methods of management.

AG1760 - Forage and Pasture Management
Students will be introduced to forage and pasture management. Major topics include forage crop varieties, plant growth requirements, forage quality, forage processing and storage, pasture plant and animal interactions, grazing management, and costs of production.

AG1800 - Food Safety and Food Processing
This course will introduce students to bio-security, food safety, food processing and food science. Major topics include farm husbandry, food science, Hazard Analysis and Critical Control Point (HACCP) and HACCP – Based Farms, standard operating procedures, sanitation and hygiene, food-borne illnesses, animal harvesting, plant inspection, food processing and by-products.

AH1010 - Aboriginal Health Initiatives
This course has been specifically developed to examine health issues which directly affect First Nations' and northern communities. Emphasis will be placed upon person health and wellness; human body systems will be examined, as well careers in Health care and related fields.

AH1060 - Personal Skills Development I
This course is meant to examine and promote living skills necessary for aboriginal student success in post-secondary environments. This course will focus upon the creation of a healthy self-concept, sound financial sense, and an awareness of good nutrition and healthy eating habits. It shall also explore ways to manage emotions and the connection between emotional balance and general well-being.

AH1061 - Personal Skills Development II
The purpose of this course is to examine and promote the living skills necessary for aboriginal student success in post-secondary environments. This particular course will explore effective communication and decision making skills, healthy interpersonal relationships, and issues related to parenting and child development.
Prerequisite(s): AH1060

AS2120 - Aircraft Hydraulics and Pneumatics Systems (M)
This M course will enable students to perform inspections, troubleshooting principles, repair and maintenance on Aircraft Hydraulic and Pneumatic Systems. Aircraft Plumbing will also be covered.
Co-requisite(s): AS2125

AS2125 - Aircraft Hydraulics and Pneumatics Systems (M, E)
This M and E course is to provide students with the basic knowledge of aircraft hydraulic and pneumatic systems design and function. Aircraft plumbing systems will also be covered.
Co-requisite(s): AS2120

AS2160 - Aircraft Landing Gear Systems (M)
This is an M course to enable students to perform inspection, trouble shooting, repair and maintenance on Aircraft Landing Gear and related systems.
Prerequisite(s): AS2125
Co-requisite(s): AS2165

AS2165 - Aircraft Landing Gear Systems (M, E)
This is an M and E course to provide students with the knowledge of aircraft landing gear and associated systems, their design and operation.
Prerequisite(s): AS2125
Co-requisite(s): AS2160

AS2220 - Aerodynamics and Flight Controls (M)
This M course is designed to provide the student with basic skills to inspect, install and adjust aircraft flight controls. Installation of float and ski systems will be covered in depth.
Prerequisite(s): GM1120, GM1130
Co-requisite(s): AS2225

AS2225 - Aerodynamics and Flight Controls (M, E)
This M and E course is designed to provide the student with basic knowledge of aerodynamic forces, flight characteristics and aircraft design. Inspection and adjustments of flight controls is covered in depth.
Prerequisite(s): GM1120, GM1130
Co-requisite(s): AS2220

AS2330 - Aircraft Systems (M)
This M course is designed to provide the student with basic task utilizing the operation of aircraft support, environmental and safety systems.
Prerequisite(s): PE1200, GM1120, GM1130
Co-requisite(s): AS2335

AS2335 - Aircraft Systems (M, E)
This M and E course is designed to provide the student with basic knowledge of the operation of aircraft support, environmental and safety systems.
Prerequisite(s): PE1200, GM1120, GM1130
Co-requisite(s): AS2330

AS2410 - Propellers and Systems (M)
This M only course will provide the student with a basic knowledge of aircraft propeller systems and their maintenance requirements. Students will also test, troubleshoot, repair, adjust, remove and replace propeller systems.
Prerequisite(s): PT1110
Co-requisite(s): AS2415

AS2415 - Propellers and Systems (M, E)
This M and E course will provide the basic knowledge in design, construction, operation and maintenance of propellers and associated systems.
Prerequisite(s): PT1110
Co-requisite(s): AS2410

AS2520 - Reciprocating Engine Fuel Metering (M)
This M course will provide the student with the knowledge of aircraft fuel systems, fuel metering systems, their design, components, function, operation, and maintenance.
Prerequisite(s): PT1110

AV1220 - Basic Aircraft Instruments (M, E)
This M and E course will give students an understanding of the requirements for operation and maintenance practices of various types of mechanical and electrical transmitters, transducers, and instruments that are used to provide operational information for most common aircraft engine associated systems.

AV1320 - Aircraft Communication Equipment (M, E)

This is an M and E introductory course designed to give the learner the basic concepts of all communication systems used on aircraft. Emergency Locator Transmitters (ELT'S) will also be looked at. Basic radio theory will be studied to the block diagram level. Ramp testing, removal and replacement of various communication systems will take place.
Prerequisite(s): PE1140

AV1500 - Basic Navigation I (M, E)

This M and E course provides students with information about basic navigation principles and terms used in aircraft systems. Installation practices regarding bonding, panel layouts, antenna installations and remote mounting equipment are discussed. The course will also include descriptions of some common navigation system types.

AV1510 - Navigation System Installation (E)

This E course is designed to give the students practical experience in installing Avionic Navigation equipment on aircraft. Students will gain procedural knowledge of the steps involved in designing, and implementing systems installation procedures, including associated regulatory supporting documentation.
Prerequisite(s): PE1200, GM1320
Co-requisite(s): AV1500

AV2170 - Pulse Navigation Systems (M, E)

This M and E course will provide the students with information relating to avionic systems that employ high power pulse transmitters for navigation information gathering and display. Microwave principles and properties of UHF frequencies as relating to aircraft installations are discussed.
Prerequisite(s): AV1500

AV2180 - Integrated Navigation Systems Installation (E)

This course is designed to give students practical experience in installing integrated avionics navigation equipment on aircraft. It involves designing a system that will share a navigation display. Students will gain procedural knowledge of the steps involved in designing and implementing systems installation procedures including associated regulatory supporting documentation. Students will inspect installations and report deficiencies if any.
Prerequisite(s): AV1220
Co-requisite(s): AV2170

AV2220 - Aircraft Instruments II (M & E)

This M and E course is designed to give the students an understanding of flight instruments, the typical panel layouts and installation practices associated with them. It covers air pressure- sensitive and gyro-stabilized systems, including Air Data and Attitude Reference systems. The course also utilizes synchronous transmitter theory. Practical labs include direct hydraulic pressure testing, operation and inspections of Pneumatic gyro systems, pitot-static testing & troubleshooting, and performing a compass swing.
Prerequisite(s): AV1220

AV2310 - Major Communications Radio Install (E)

This E only course prepares the student to inspect, install, troubleshoot, repair and maintain electronic communication radio equipment and their systems. A major installation will be completed including all of the required paperwork and technical records.
Prerequisite(s): AV1320

AV2510 - Auto Flight Theory (M, E)

This M and E course of study will cover servo systems and components, aircraft dynamics, pitch, roll, yaw, speed commands, and the fundamental principles involved in the automatic flight of both fixed wing and rotary wing aircraft.
Prerequisite(s): AV2220
Co-requisite(s): AV2540

AV2540 - Auto Flight Ramp Testing (M)

This M only course will have the students ramp test the auto pilot system in a fixed wing aircraft including the associated flight director modes.
Co-requisite(s): AV2510

AV2570 - Auto Flight Troubleshooting (E)

This E only course will have the students explain aircraft systems including troubleshooting, and ramp testing of auto flight equipment. Students will locate and repair faults and defects on the College's aircraft.
Prerequisite(s): AV2510

AV3110 - Monitoring and Digital Systems (M, E)

This M and E course provides information regarding the design of communication systems between individual avionic pieces of equipment. It explains how newer Data bus technology is used in modern aircraft. Topics also include electronic systems that record and display data. Practical applications include inspecting, testing and troubleshooting installed avionic and electrical systems.

BA1000 - Health and Safety
This course demonstrates knowledge of industry standards, safe work practices and regulatory requirements pertaining to health and safety for the baking and pastry arts industry.

BA1010 - The Professional Baker
This course will introduce students to the industry standards and baker terminology. It will explore common communication and conflict resolution models, coaching, and mentoring for bakers. The course will identify and practice forms and documentation, as well as identify the designation for baker career options.
Prerequisite(s): CK1107

BA1015 - Baker Tools and Equipment
This course will involve the selection of kitchen tools and equipment, basic maintenance and procedures for their use. The course will also explore baker specific tools and equipment, their applications, basic maintenance and procedures for their use.
Prerequisite(s): CK1107

BA1020 - Weights and Measures
This course demonstrates knowledge of weighing and measuring devices, their applications and procedures for use. It also demonstrates knowledge of increase and decrease recipe yields and portions to meet specific requirements.

BA1025 - Baking Methods and Principles
This course will demonstrate knowledge of baking methods and their characteristics, baking terminology and techniques, as well as explore seasonings and flavorings, their purpose and use.
Prerequisite(s): CK1130

BA1030 - Bread Products
This course requires the use of baking utensils, equipment, and baking supplies. It involves preparing bread products. It includes information on yeast fermentation, bread formulas, chemical leavening and production methods used for yeast dough and quick breads.
Prerequisite(s): BA1010, BA1025

BA1035 - Cakes I
This course requires the use of baking utensils, equipment, and baking supplies. It involves preparing cakes and icings. It will include the background information on ingredients, mixing methods, baking methods, icing, decorating and storing cakes.
Prerequisite(s): BA1010, BA1025

BA1040 - Cookies
This course requires the use of baking utensils and equipment, and baking supplies. It involves preparing specialty cookies and squares. It includes information on types mixing methods and the necessary makeup methods and preparation techniques for cookies and squares.
Prerequisite(s): BA1025

BA1050 - Artisan Breads
This course requires the use of baking utensils, equipment, and baking supplies. It involves preparing artisan breads, rich breads, and laminated breads. It will include information on ingredients, pre-ferment, mixing methods, baking methods, icing, and storing products.
Prerequisite(s): BA1010, BA1025

BA1055 - Cakes II
This course requires the use of baking utensils, equipment, and baking supplies. It involves preparing specialty cakes and advanced assembly and decorating.
Prerequisite(s): BA1035

BA1060 - Pastry I
This course is an overview of basic skills needed to produce various baked goods and dessert items. This course will apply these fundamental baking techniques and methods to produce products in an industry-like environment.
Prerequisite(s): BA1010, BA1025

BA1065 - Creams, Custards, Fillings and Dessert Sauces I
This course provides students with the knowledge, understanding and ability to produce different types of creams, custards, fillings and dessert sauces.
Prerequisite(s): BA1010, BA1025

BA1070 - Pastry II
This course is an application of advanced skills needed to produce premiere quality baked goods. Students will apply these advanced baking techniques and methods to produce products in an industry-like environment.
Prerequisite(s): BA1060

BA1075 - Creams, Custards, Fillings and Dessert Sauces II
This course provides students with the knowledge, understanding and ability to produce different types of creams, custards, fillings and dessert sauces that require advanced technical skill and knowledge.
Prerequisite(s): BA1065

BA1080 - Dietary Baking
This course is an application of advanced skills needed to produce baked goods requiring adaptations due to dietary restrictions. Students will apply fundamental baking techniques and methods to produce products in an industry-like environment.
Prerequisite(s): BA1060

BA1085 - Laminate Dough
This course is an application of advanced skills needed to produce premiere quality baked goods featuring laminate dough methods. This course will apply these fundamental baking techniques and methods to produce products in an industry-like environment.
Prerequisite(s): BA1060

BA1090 - Frozen Desserts
This course is an application of advanced skills needed to produce premiere quality frozen products. This course will apply fundamental baking techniques and methods to produce products in an industry-like environment.
Prerequisite(s): BA1010, BA1025

BA1095 - Chocolate and Sugar
This course is an application of advanced skills needed to produce premiere quality baked goods. Apply fundamental baking techniques and methods to produce products in an industry-like environment.
Prerequisite(s): BA1010, BA1025

BA1100 - Workplace Exposure Baking and Pastry Arts
Students will gain an appreciation of the real work environment through a three (3) week job placement experience directly related to the area of training. This experience will be required in addition to all academic requirements of the Baking and Pastry Arts program. Students will be able to develop employability skills such as working independently, team building, customer service, work ethic, attitude, accountability, and further enhancing their personal growth.
Prerequisite(s): BA1025

BK1100 - Banking Operations I
This course is designed to familiarize students with the main principles and guidelines that characterize the banking industry and then provide them with a basic understanding of the operations and transactions conducted in a bank setting.

BL1020 - Introductory Biology I: Biology at the Microscopic Level •
This is a Biology course designed for students who have not completed high school Biology or who require upgrading in Biology for College and College-University Transfer Biology courses. Students will learn the microscopic levels of Biology that will lead them into the macroscopic levels covered in Introductory Biology II. A combination of both Introductory Biology I and II will achieve better understanding of basic concepts that are required for success in various Biology courses in Health Sciences, Natural Resources and/or University programs. Students will be expected to complete assignments and labs to show their understanding of the concepts.

BL1021 - Introductory Biology II: Biology at the Macroscopic Level •
This is a Biology course designed for students who have successfully passed Introductory Biology I. Students will carry over their knowledge from Introductory Biology I to gain a thorough understanding of Biology at the macroscopic level. A combination of both Introductory Biology I and II will achieve better understanding of basic concepts that are required for success in various Biology courses in Health Sciences, Natural Resources and/or University programs. Students will be expected to complete assignments and labs to show their understanding of the concepts.
Prerequisite(s): BL1020

BL1060 - Biology for Aboriginal Students
The purpose of this course is to provide aboriginal students with a broad survey of the discipline of Biology. Topics will be explored using both traditional First Nation's and scientific frameworks, emphasis being balanced between Traditional Ecological Knowledge (TEK), as well as the scientific method. This course will introduce students to the study of plants, animals and food systems; ethno-botany will be introduced to complement the 'system of scientific classification'. A laboratory component will allow students to conduct experiments that will further their understanding of plant and animal life.

BL1100 - Biology
This is an introductory course in the first semester of the Natural Resources cluster designed to prepare the student for further biology related studies. Emphasis in labs and field trips will be directed to gaining an appreciation of natural ecosystems and associated life processes.

BL1120 - Biology I

This is an introductory course in the first semester of the Natural Resources cluster designed to prepare the student for further biology related studies. Emphasis in labs and field trips will be directed to gaining an appreciation of natural ecosystems and associated life processes.

BL1175 - Principles of Biology I

This is the first of two introductory courses developed for credit transfer to Memorial University of Newfoundland. The course is intended to be equivalent to MUN's Biology 1001. The course is an introduction to the science of biology, covering the fundamentals of biological concepts for successive courses including: basic biochemistry, introduction to cells and cellular organization, an introduction to cellular transport, an introduction to metabolism and enzymes, nucleic acid structure, replication and its functions, viruses and an introduction to prokaryotic organisms, Protists and Fungi. Transferable to MUN Biology 1001.

BL1176 - Principles of Biology II

This is the second in a series of two introductory courses developed for credit transfer to Memorial University of Newfoundland. The course is intended to be equivalent to MUN's biology 1002. This course concentrates on the structure and function of the Plant Kingdom and the Animal Kingdom using the flowering plant and various invertebrates and vertebrates as examples. Transferable to MUN Biology 1002.
Prerequisite(s): BL1175 or BL1500 or MUN Biology 1001

BL1180 - Anatomy and Physiology

This course is designed to enable learners to acquire a comprehensive knowledge of gross anatomy and physiology of the major systems of the human body. In addition, learners will be instructed on the general principles of pathophysiology to facilitate understanding of the body's reaction to trauma and illness.

BL1300 - Anatomy & Physiology

This course is an introduction to the science of normal functions and phenomena of living things from the cellular to the whole body levels of organization. Emphasis will be placed on the principles of the functioning of the organisms and body systems in order to facilitate the understanding and relationship of biomedical instrumentation.

BL1330 - Anatomy •

This course is an introduction to the science of normal functions of living things from the cellular to the whole body levels of organizations.

BL1400 - Fish and Wildlife Biology •

This course requires the use of resource references, laboratory equipment and a suitable environment. It involves the study of the natural history of birds, fish and mammals, and a theoretical and practical understanding of the anatomy of birds, fish and mammals. It includes information on population biology, reproductive biology, feeding biology, ecology, behaviour of fish, birds and mammals; anatomical charts, species charts, storage of specimens and dissection procedures.
Prerequisite(s): BL1120

BL1500 - Biology

This is an introductory biology course with emphasis being placed on the following: a study of the cell, its structure and function; a comparison between animal and plant cells; a brief study of selected organisms of the Protista kingdom and a comparison between eucaryotes and procaryotes; a study of DNA and RNA and protein synthesis; an introductory study of gene regulation in procaryotes and eucaryotes; the principles of hereditary; an introductory study of biotechnology; a study of tissues; an introduction to anatomical and medical terminology, and a study of the skeletal system.

BL1501 - Biology

This is a course in human anatomy and physiology with emphasis being placed on the following systems: cardiovascular, lymphatic, respiratory, endocrine, nervous and sensory organs, and related medical terminology.
Prerequisite(s): BL1500

BL1600 - Human Biology

This course will provide an introduction to human biology, including a brief review of biochemistry, cellular biology, infectious processes, and human tissues. The primary emphasis will be an overview of the anatomy and physiology of the human body using a systematic approach. It is designed to provide a foundation for health science students to help the student understand the variety of medical tests, procedures, and/or drugs available for diagnosis and treatment. The fundamental concepts covered in this course will form the basis for further studies in allied health sciences.

BL2100 - Biology

This is a continuation of the second semester anatomy and physiology course with emphasis on the following systems: digestive, urinary, and reproductive, and related medical terminology
Prerequisite(s): BL1501

BL2410 - RT Microbiology
This introductory course covers the basic aspects of microbiology with emphasis on the role of micro-organisms in disease and methods of control utilized in respiratory care.
Prerequisite(s): Successful completion of Semester 3

BL2425 - Clinical Microbiology 1
This course builds on the general concepts of disease and basic microbiology outlined in BL2601 (Intro to Microbiology). Students study clinically relevant bacteria with emphasis on the techniques utilized to isolate and identify common pathogens in the laboratory setting. Students perform various biochemical, cultural, and chemical tests on selected non-fastidious bacteria and report test results at an introductory level.
Prerequisite(s): BL2601

BL2431 - Clinical Microbiology 2
This course consists of a systematic study of the pathogenicity, epidemiology, morphology, and laboratory identification of various common microbes associated with infectious disease. Major emphasis will be on bacteria with a brief study of clinically important yeast-like fungi.
Prerequisite(s): BL2425

BL2441 - Clinical Microbiology 3
In this course, students continue building knowledge and skills of microbiology techniques exploring some of the organisms and specimens less frequently isolated in the laboratory. Knowledge will be further reinforced by an exploration of the routine set-up and isolation of microorganisms using a body systems approach. Emphasis will be placed on microbiology laboratory techniques, practices, standards and quality control. An introduction to advanced microbiology techniques including molecular biology, parasitology, and virology will also be explored.
Prerequisite(s): BL2431

BL2601 - Intro to Microbiology
This course introduces students to the principles and methods of microbiology in the health sciences and provides an overview of the safety aspects of a level II microbiology laboratory. Selected topics include an introduction to the classification, structure, and cultivation of bacteria in the health science disciplines, an overview of the significant role microbiology plays in the health of the public, and an introduction to a routine microbiology laboratory.

BL3410 - Clinical Microbiology Sim 1
This course is an introduction to the isolation, identification and reporting of microorganisms isolated from clinical specimens originating from the head and neck, the genito-urinary system and other miscellaneous sources. It is at an intermediate level and is intended to introduce the process of standard techniques and methodologies used to identify common pathogens in a routine clinical microbiology laboratory. Standardization of laboratory techniques, terminology, methods, and reporting will be emphasized. Quality control is incorporated.
Prerequisite(s): BL2441

BL3411 - Clinical Microbiology Sim 2
This course involves laboratory isolation, identification and reporting of microorganisms from clinical specimens originating from the head and neck, the gastro-intestinal tract, and other miscellaneous sources. It is at an advanced level of understanding and interpretation. It is intended to introduce standard techniques and methodologies used to identify common pathogens in a routine clinical microbiology laboratory. Standardization of laboratory techniques, terminology, methods, and reporting will be emphasized. Quality control and quality assurance is incorporated.
Prerequisite(s): Successful completion of Semester 6

BL4410 - Microbiology Practicum
This course allows the student to develop technical competence while reviewing theoretical material from previous semesters. The three week hospital rotation will emphasize clinical procedures and acquaint the student with the hospital operation and administration.
Prerequisite(s): Successful completion of Semester 7

BU2120 - Building Codes and Services
This course will provide learners with the knowledge and skills to address questions regarding public safety, fire safety, plumbing systems and ventilation systems. Learners will use various codes and standards to solve design problems for new and existing structures.
Prerequisite(s): DR1220
Co-requisite(s): None

BU2130 - Service Learning
This course is an introduction to service learning. It explains the purpose and structure of the service learning approach to education. It also presents an overview of health and safety as it relates to building construction sites. Students will learn about the key components needed in the delivery of formalized service learning, and proper health and safety practices while working on community projects.

BU2250 - Electrical Systems
This course is comprised of lectures and labs designed to introduce the learner to building electrical systems. Design concepts and procedures are studied, with direct applications in the preparation and production of electrical systems drawings.
Prerequisite(s): PH1101, ET1101
Co-requisite(s): DR3110

BU2260 - Plumbing Systems
Plumbing Systems is a course designed to introduce students to terminology and design methods used in the plumbing and fire protection aspects of building services. The course begins with an introduction to hydraulics, piping and the associated terminology, and the advances to areas of water supply and distribution, sanitary drainage, storm drainage and fire protection. The course includes a detailed study of code requirements and the preparation of computerized working drawings.
Prerequisite(s): PH1101, DR3111
Co-requisite(s): CG1800

BU2270 - HVAC
This course is designed to introduce the student to building heating, ventilation and air conditioning (HVAC) systems. The course begins with an introduction to historical and contemporary HVAC systems emphasizing current energy conservation. Climate, comfort, passive and active design strategies are discussed, with a detailed study of building heat gain and building heat loss.
Prerequisite(s): BU2260
Co-requisite(s): DR4120

BU2300 - Building Codes I
This is the first of two architectural building codes courses. The course gives a brief examination of the purpose and contents of building codes in general. It also gives an overview of how the National Building Code of Canada is formatted and how it is to be used. The course concentrates on the code requirements given in the National Building Code of Canada for houses and small buildings. Emphasis is placed on selecting and sizing building components.
Co-requisite(s): DR3110

BU2301 - Building Codes II
This course is a continuation of BU2300 - Building Codes I and concentrates on the safety requirements of buildings covered by Part 3 in the National Building Code of Canada. It is designed to help the student interpret and apply regulations through a series of practical exercises.
Prerequisite(s): BU2300

BU2410 - Building Science I
This is the first of two building science courses. The course studies how heat and air/water flow through a building envelope particularly from the inside to the outside of the enclosure. It also investigates steps to reduce/prevent the negative results which may result from this movement. Emphasis is placed on the selection and arrangement of building components.
Co-requisite(s): DR3110

BU2411 - Building Science II
This is the second of two building science courses. The course deals with heat, air and water movement through the building envelope particularly from outside to inside the enclosure. It examines the way different wall and roof assemblies perform. Students are required to solve technical problems based on building science theory. Emphasis is placed on the "barrier" concept of enclosure design. Special emphasis is placed on the barriers in roofs.
Prerequisite(s): BU2410
Co-requisite(s): DR3111

BU3300 - Building Specifications
This course deals with the interpretation and writing of specifications for building projects. A study is made of specification writing theory and procedures. Students are expected to analyse specifications for form intent. Projects include identifying technical and legal requirements and translating them into written form. Subject material includes contracts, master format, specification types, and specification writing.
Prerequisite(s): CG3230, DR4120

CA2110 - Structures I
This is the first of two courses in the application of fundamental design concepts in structural design using Canadian design standards. This course prepares the learner to analyse and design basic steel and timber structural elements. Topics include: material properties, design of tension and compression members, beams, columns, and connections.
Prerequisite(s): CF2531

CA2111 - Structures II
This is the second of two courses in the application of fundamental design concepts in structural design using Canadian design standards. This course prepares the learner to analyse and design basic cast-in-place reinforced concrete structural elements including beams and one-way slabs, columns, foundations and walls. Flexural behavior, shear, compression, serviceability and bond and anchorage requirements are considered.
Prerequisite(s): CA2110

CA2320 - Urban Development I
This course is designed to provide the learner with an opportunity to apply learned theory to the design of an actual subdivision for given lot sizes, dwelling standards, zoning, and other internal and external site factors. This course also includes identification of local design regulations and the preparation of computerized drawings.
Prerequisite(s): SU1210

CA2321 - Urban Development II
This course is designed to provide the learner with an understanding of municipal water and wastewater distribution systems. Water quality parameters and piping network systems will be examined in detail. This course also includes identification of local design regulations and the preparation of computerized drawings.
Prerequisite(s): WA1230, CA2320, WA1160

CA2500 - Highway Technology
This course enables the learner to plan and design highway transportation systems according to local standards. Learners will be required to complete a major highway design project utilizing design software. The project comprises of route selection, design of horizontal and vertical alignment including super-elevation, preparation of plans, profiles and cross-sections, calculation of earthwork quantities, and environmental protection measures using current civil design software.
Prerequisite(s): CB2420
Co-requisite(s): WA1160

CA2810 - Soils & Foundations I
This is an introductory course in soil mechanics in which learners will acquire knowledge about the various types of soils used in the design and construction of civil projects. Identification, classification, and formation of soils will be addressed and learners will become familiar with the standard tests and procedures used to evaluate soils and their engineering properties.
Prerequisite(s): CF2711

CA2811 - Soils & Foundations II
This course will build on the knowledge acquired in CA2810 and will introduce the learner to the field of Geotechnical Design. Learners will be required to determine and analyse the effects of soil properties on bearing capacity, slope stability of soils, consolidation, and settlement. Aspects covered include: shallow foundations, pile capacity and design, foundation settlement, and slope stability.
Prerequisite(s): CA2810

CA2900 - Municipal Engineering
An introduction to zoning bylaws and zoning in general. Criteria are examined for the design and construction of roads, curb and sidewalks, width or right of way, storm and sanitary sewer collecting systems, water distribution systems and layout of utilities (electrical, phone, cable TV). Lectures are supplemented by labs in which related problems, field trips, and the actual lot layout, design of roads, water mains, sanitary sewer and storm sewer for an urban subdivision is carried out.
Prerequisite(s): SU1321

CB2420 - Construction Methods
Construction methods will help learners to estimate construction costs and productivity rates of various types of equipment and apply previous knowledge from economics to Heavy Equipment. The course will deal with methods and operations utilized in heavy and marine construction, with emphasis placed on specifying the best equipment or process for the situation.
Prerequisite(s): MA1101

CE1210 - Basic Communications Networks I
This course introduces learners to the concept of networking using a top-down approach. Throughout this course learners will examine the role and operation of networks including applications, protocols, devices, and media. Learners will also be introduced to wireless networks. This course provides the learner with significant practical experience in networking. Upon completion of this course the learner should have a reasonable understanding of topics such as how Local Area Networks function, the role of IP addressing, and how data is reliably transported between hosts across the Internet. Learners will be expected to construct a simple network and apply appropriate IP addresses and to configure connectivity between a wireless LAN client and a wireless access point.

CE2280 - Modulation and Encoding

This course is designed to provide learners with a foundation in the fundamental methods of modulating or encoding analog and digital signals for transmission over a modern communication system. The methods for the transmission of analog and digital signals across an analog medium are covered as well as the methods for transmitting analog and digital signals across a baseband digital medium. The impact of noise on these methods is also discussed.
Prerequisite(s): MA1101, CI1110, AE2330 or AE2360

CE2730 - RF Transmission & Antennas

This course provides a comprehensive study of the basic principles of electromagnetic wave propagation as they are applied to transmission lines, waveguides, and antennas with applications in wired and wireless communications systems.
Prerequisite(s): MA1101, MP2140 or ET2100 or ET1140

CE2810 - Industrial Communication Systems

This specialized course introduces the student to industrial communication protocols and systems for process control and automation systems in an industrial environment. The lab component is designed to enhance the theoretical lecture component by implementing communication methods, networks, and troubleshooting skills.
Prerequisite(s): CE1210

CE2940 - HMI & SCADA

The course provides learners with a comprehensive analysis of Human Machine Interface (HMI) development using commercial HMI software for monitoring and controlling automated machines and processes from custom designed graphical user interfaces. Learners will be introduced to the Supervisory Control and Data Acquisition (SCADA) system for process and utility industries.
Prerequisite(s): CE2810, DP3110

CE3110 - Wireless Communications Systems

This is an advanced electronic communications course focusing on modern wireless communication systems. It provides a background in radio wave propagation. A systems-level approach to the architecture, design, and operation of VHF and UHF mobile radio systems, cellular telephone systems, microwave and satellite-based communication systems is presented.
Prerequisite(s): CE2280, CE2730

CE3371 - Switching & Routing

This course continues the student's education in IP-based communications. In this course the student will explore concepts in LAN design, the operation and configuration of LAN switches, virtual Local Area Networks (VLANs), IP routing, and LAN security.
Prerequisite(s): CE1210 or CE1220

CE3381 - Advanced Routing & Switching

This course continues the learner's education in Internet Protocol (IP)-based communications with the concept of growing an IP network. In this course the learner will be introduced to LAN redundancy, link aggregation, wireless LANs, and advanced routing concepts.
Prerequisite(s): CE3371

CE3430 - Network Cabling

This course will provide the learner with the necessary skills to design and implement high performance cabling systems. The performance level of the system determines the type of cabling and hardware to be used, the rules to be followed and the type of testing and documentation required to certify performance and trouble-shoot the installation.

This course focuses on the physical layer of the OSI Network Model and includes the electrical and mechanical aspects of interfacing to the transmission medium and the impact on performance they may have. This includes analysis of copper cabling, fibre optics, connectors and interconnection hardware, electrical code requirements for installation, performance certification, and documentation best practices.
Prerequisite(s): CE1220 or CE1210

CF1100 - Materials and Processes I

The purpose of this course is to provide students with knowledge of the behaviour and characteristics of common engineering materials and an understanding of basic industrial processes. This will enable students to select suitable materials and fabrication methods for the design and manufacture of parts to ensure successful service.

CF1101 - Materials and Processes

The purpose of this course is to familiarize the learner with production and fabrication processes and practices used in the industrial environment. The course provides an overview of welding processes, non-destructive testing, corrosion, and casting-processes. An introduction to plastics and other engineering materials is provided.
Prerequisite(s): CF1100

CF1120 - Materials and Processes II

The purpose of this course is to familiarize the student with production and fabrication processes and practices used in industrial environments. A continuation of CF1100 – Materials and Processes I, this course will give an overview of non-metal materials used in engineering processes and an understanding of surface treatments, coatings and corrosion. Manufacturing processes include metal removal, joining processes, and casting processes.
Prerequisite(s): CF1100 or CF1160

CF2100 - Mechanics of Solids: Statics

This is a core engineering course in the Mechanical Engineering Technology program. This course introduces students to the fundamentals of problem solving using engineering analysis. This first course in Solid Mechanics deals with Newton's First Law where forces are in equilibrium. Solutions to the problems presented involve drawing free body diagrams, resolving force vectors into components, and solving equations to find reactions. The concept of internal stress is introduced and related to bending moments, simple shear and torsional shear. The lecture portion of the class will consist of the introduction of the engineering problem solving process, the conceptual material and interactive demonstrations of the engineering concepts. The lab portion will provide an opportunity to engage students in experimental methods and comparison of experimental data with theoretical values.
Prerequisite(s): PH1101, MA1101

CF2511 - Strength of Materials

This course expands on previously studied concepts of CF2100 Mechanics of Solids: Statics and provides a basis for calculations in engineering design as per complex stress and strain systems.
Prerequisite(s): CF2100

CF2530 - Strength of Materials I

This is the first of two courses in the study of statics and strength of materials in preparation for further study in design-oriented courses. Learners will learn to analyze forces in structures and basic requirements to ensure safety of structures under applied loads. Major topics include: statics, basic concepts in strength of materials, centroids and moments of inertia, design properties of materials, direct stress, deformation and design, and torsional shear stress and torsional deformation. Laboratories include tensile, compression and shear testing of various engineering materials.
Prerequisite(s): MA1101; PH1101
Co-requisite(s): MA2100

CF2531 - Strength of Materials II

This is the second of two courses in the study of statics and strength of materials in preparation for further study in design-oriented courses. Learners will learn to calculate and plot shearing forces and bending moments in beams, analyze shear stress, bending stress and deflections in statically determinate and statically indeterminate beams, analyze stresses in columns and connections, calculate combined stress in members subject to bending and direct stresses, and calculate stresses in welded and bolted connections. Laboratories include testing of beams, columns and connections under applied loads.
Prerequisite(s): CF2530

CF2540 - Mechanics of Solids

This course is included in the Industrial, Mechanical, Mechanical (Manufacturing) and Petroleum Engineering Technology programs' curriculum as an Engineering science. It is part of a core of courses that introduce students to the fundamentals of applied problem solving. It enables the economical and safe selection of materials for engineering components, which are subjected to loads when in service. Theoretical work supplemented by problem sessions is carried out on general force systems, reactions, free body diagrams; trusses and frames; centroids and second moments of area; shear force and moments in beams; stresses in beams and beam design.
Prerequisite(s): PH1101, MA1101

CF2560 - Strength of Materials

This course is an introduction to the analysis of stresses in load bearing structural members. Concepts of stress, strain and elasticity are applied to elementary systems of normal, shear and bending stress in order to give students an understanding of one of the fundamental building blocks upon which all engineering designs are based.
Prerequisite(s): MA1101; PH1100

CF2610 - Building Materials I

This course examines the properties, limitations, and application of wood and concrete as it relates to building design and construction.

CF2611 - Building Materials II

This course examines the properties, limitations, and applications of a number of different building materials. It is designed to help students assess and select suitable materials for a variety of situations found in buildings.
Prerequisite(s): CF2610

CF2710 - Materials and Testing I

This course has been designed to provide the learner with a working and hands on knowledge of common building materials, so that he/she will be better able to function as a technologist in the building and heavy construction field. This course will provide the learner with a basic knowledge of the characteristics, uses and application of common construction materials and the general specifications associated with each material. Materials such as concrete and aggregate; their properties, components, uses, production and construction methods will be studied. Basic theory will be supplemented by laboratory testing of aggregate and concrete done to CSA Standard. Emphasis will be placed on decision-making for the proper selection and use of the various components discussed in each material. Course work will be supplemented by field trips and in shop demonstrations.
Prerequisite(s): CM1401, DR1220

CF2711 - Materials and Testing II

This course has been designed to provide the learner with the working and hands on knowledge of common building materials, so that he/she will be better able to function as a technologist in the building and heavy construction field. This course will be a continuation of CF2710 - Materials and Testing I. It will provide the learner with a hands-on approach to the testing, selection, use and application of common building materials, such as asphalt and aggregate; and tested under laboratory conditions. Wherever possible, in lab work, will be supplemented with field trips, videos and guest lectures.
Prerequisite(s): CF2710

CF3100 - Mechanics of Solids: Dynamics

This second Mechanics course expands on previously studied concepts of Statics specifically Newton's 1st Law introducing Newton's 2nd Law, kinematics, work-energy concepts, as well as relative motion and vibration. The lecture portion of the class will consist of the introduction of the engineering problem solving process, the conceptual material and interactive demonstrations of the engineering concepts. The lab portion will provide an opportunity to engage students in experimental methods and comparison of experimental data with theoretical values.
Prerequisite(s): CF2100

CF3201 - Materials and Corrosion

This course provides the learner with an introduction to physical and mechanical properties of common materials used in the petroleum and chemical processing industry. It will examine the production of steel and effects of pressure and temperature on steel alloy systems. It is designed to familiarize the learner with the major factors that influence industrial material selection. Learners will also examine corrosion and means by which corrosion is controlled and monitored in industry.
Prerequisite(s): CH1121

CF3205 - Materials and Corrosion

This course provides the student with an introduction to physical and mechanical properties of common materials used in the petroleum and chemical processing industry. It will examine the production of steel and effects of pressure and temperature on steel alloy systems. It is designed to familiarize the student with the major factors that influence industrial material selection. Students will also examine corrosion and means by which corrosion is controlled and monitored in industry.
Prerequisite(s): CH1121

CF3440 - Structural Design

This course is an introduction to structural design and strength of materials. Emphasis is placed on calculations leading to the selection of structural members based on shear forces, bending moments, and deflection produced by static loads, with an application towards architecture and building construction.
Prerequisite(s): MA2100, PH1101

CF3620 - Building Materials III

This course examines the properties, limitations, and application of a number of different building materials. It is designed to help students assess and select suitable materials for a variety of situations found in buildings.
Prerequisite(s): CF2611

CG1200 - Health Care and Safety I

This course serves as an introduction to the hospital environment, its organization and management. Learners will be familiarized with the health care system of Canada. The application of safety in the hospital environment, with a special emphasis on the concepts of electrical safety, will be stressed.

CG1201 - Health Care and Safety II

This course serves to familiarize the learner with equipment control systems and procedures utilized by biomedical engineering departments. The concepts of quality assurance as well as standards involved in the safe use of electricity in health care institutions will be addressed. This will be done in the context of an overall quality management system. Learners will also become familiar with fire, micro-biological, infection control and environmental safety issues as they relate to the hospital environment.
Prerequisite(s): CG1200

CG1205 - Health Care and Safety

This course serves as an introduction to the hospital environment, its organization and management. Learners will be familiarized with the health care system of Canada. The application of safety in the hospital environment, with a special emphasis on the concepts of electrical safety, will be stressed. The learner will also be familiarized with the equipment control systems and procedures utilized by biomedical engineering departments. The concepts of quality assurance as well as standards involved in the safe use of electricity in health care institutions will be addressed. This will be done in the context of an overall quality management system. Learners will also become familiar with fire, micro-biological, infection control and environmental safety issues as they relate to the hospital environment.

CG1400 - Production Fundamentals

This course will expose students to the operation of a production room. Students will learn about artistic and technical illustrations, and will learn how to transfer these to flat patterns for production. Students will delegate the industrial straight stitch, the four-thread overlock, the five-thread finishing machine, the industrial blind hemming machine, the double needle machine, the industrial walking foot machine, industrial fur sewing machine and the industrial gravity feed steam iron for specific aspects of the production. Students will perform costing for production jobs, and apply lean manufacturing techniques to produce a product according to industry standards. In addition, students will develop skills in employee-employer relations.
Prerequisite(s): TX1400
Co-requisite(s): TX1210

CG1500 - Work Methods and Measurement

This course is designed to introduce the student to the basics of time and motion study. It will provide the student with a basic understanding of time study techniques. It comprises various topics in pre-determined motion time and work measurement systems. The intent is to develop in the student a full understanding of the elements of these systems and the capability to create and implement them. It also provides the student with the basic tools used in a lean manufacturing enterprise.
Prerequisite(s): EG1430

CG1700 - Environmental Design

This course will introduce students to the fundamentals of architectural design with emphasis on applying basic architectural principles, conventions and sustainable building practices. It will also further develop the student's understanding of architectural practice.

CG1800 - Building Site Development

This is a two part course that teaches students the requirements of building site development. The first section is an introduction to surveying while the second section deals with the actual site development. Knowledge of each major topic will be gained through both theory and practical work, including field work.
Prerequisite(s): DR3111
Co-requisite(s): BU2260

CG2110 - Supply Chain Management

This course analyzes the principles of Supply Chain Management by bringing together all of its mayor components. It covers the movement of materials and services from point of origin to point of use, involving suppliers, manufacturers, intermediaries, stores, and service enterprises.

CG2160 - Lean Methods

This is an introductory course that provides the learner with the basic tools used in a lean manufacturing enterprise. It lays the foundation for many of the topics that are done in detailed applications within the Industrial and Manufacturing disciplines. The course provides an overview of quality, production systems, operation designs and applications of the lean manufacturing philosophy of identifying and eliminating waste through continuous improvement of products and services.
Prerequisite(s): CG1500

CG2330 - Planning & Estimating I

This course is an introduction to the disciplines of cost estimating, project management, scheduling and planning for construction purposes.
Prerequisite(s): CB2420

CG2331 - Planning & Estimating II

This course is a continuation of CG2330 - Planning & Estimating I. Learners will use commercially available computer software to prepare construction cost estimates and schedules. This course will also provide the learner with the opportunity to apply technical material studied in earlier courses of the Civil Engineering Technology (Co-op) Program to the construction management process.
Prerequisite(s): CG2330

CG3230 - Procurement & Contract Administration

This course examines the fundamentals of economics, types of businesses, and the administrative process as it relates to design construction projects. It is designed to help students understand their role in the economics and administration of the design and construction industry.

CG3320 - Estimating for Buildings
This course is designed to provide students with a basic understanding of the various types of estimates commonly used in the building design and construction industry. This course addresses both elemental cost analysis and building construction estimating. Computer-generated spreadsheet applications are used.
Prerequisite(s): DR4120, BU2270

CG3500 - Production Planning
This course analyzes the principles of production management by bringing together topics of planning and approaching them as an integrated production plan, interpreting various components such as master scheduling, resource planning, manufacturing control and flexible manufacturing.
Prerequisite(s): CG1500

CG3501 - Production Planning
This course analyzes the principles of production management by bringing together topics of planning and approaching them as an integrated production plan, interpreting various components such as master scheduling, resource planning, manufacturing control and flexible manufacturing.
Prerequisite(s): CG1500

CH1030 - Introductory Chemistry I
Introductory Chemistry I is a Comprehensive Arts and Science (CAS) Transition course. It is the first of two Chemistry courses designed to prepare students for entry into a number of technical programs at the College level as well as CAS Transfer: College-University. The purpose of this course is to give students an introduction to basic chemical principles and laboratory procedures.

CH1031 - Introductory Chemistry II
Introductory Chemistry II is a Comprehensive Arts and Science (CAS) Transition course. It is the second of two Chemistry courses designed to prepare students for entry into a number of technical programs at the College level as well as CAS Transfer: College-University. Continuing the introduction to fundamentals of Chemistry started in Introductory Chemistry I, the main emphasis of this course is on solving mathematical chemical problems.
Prerequisite(s): CH1030

CH1060 - Chemistry for Aboriginal Students
The purpose of this course is to provide aboriginal students with an introduction to the discipline of chemistry. First, the role of chemistry in modern society will be examined from a First Nations' perspective. Then, introductory concepts will be introduced. These will include: matter, atomic structure, the periodic table, chemical bonding, and nomenclature.

CH1120 - Chemistry
This is an introductory course designed to give students a knowledge and understanding of the fundamental chemical concepts which will form the basis for further studies in science and technology.

CH1121 - Chemistry
This course will develop further the fundamental concepts of chemistry, with emphasis on those relevant to the chemistry of materials and to the processes of polymer chemistry, thermochemistry, chemical reaction rates and equilibrium, electrochemistry, metals and alloys.
Prerequisite(s): CH1120

CH1135 - Chemistry
This is an introductory course in chemistry dealing with the fundamental laws of chemistry, physical and chemical changes, the quantum mechanical model of the atom, the electronic structure and the periodic table, the significant figures and scientific notations, measurements and units, writing and balancing chemical equations including redox equations, stoichiometry and stoichiometric calculations, gases and gas law calculations and thermochemistry and thermochemistry calculations. This course is transferable to MUN Chemistry1010.
Prerequisite(s): None, but high school chemistry is recommended. However, mathematical skills are required, and students with low marks in high school Level III academic mathematics (less than 70%) are strongly recommended to upgrade their mathematics background before undertaking this course
Co-requisite(s): None, but a mathematics course is strongly recommended

CH1140 - General Chemistry I
This course is designed for students who have previously studied chemistry, either in high school or university. It is designed to give students a knowledge and understanding of the fundamental chemical concepts which will form the basis for further studies in the field of science. Major topics are: matter - its properties and measurement, atoms and atomic theory, chemical compounds, chemical reactions, introduction to reactions in aqueous solution; gases; thermochemistry; the quantum mechanical model of the atom; periodic properties of the elements; chemical bonding I –basic Concepts; chemical bonding II additional aspects, valence bond theory and molecular orbital theory; liquids, solids and intermolecular forces. Transferable to MUN Chemistry 1050.
Prerequisite(s): At least 65% in high school Chemistry 3202. Students must have a strong background in pre-university chemistry. The main objective of this course is not to re-teach core chemical concepts but to build on them. Students with a weak chemistry background are advised to register for Chemistry 1135.

CH1141 - General Chemistry II
This course is designed for students who may have career interests in chemistry or other fields of science. The course will develop further the fundamental concepts of chemistry with emphasis on practical applications. Major topics are: chemical kinetics, principles of chemical equilibrium, acids and bases, aqueous ionic equilibrium, solubility equilibrium, free energy and thermodynamics, electrochemistry and properties of solutions. This course is transferable to MUN Chemistry1051.
Prerequisite(s): CH1140

CH1200 - Chemistry
This is an introductory course in chemistry dealing with the fundamental laws of chemistry, the nature of matter and structure of the atom, the periodic table, chemical bonding, stoichiometry, and the physical states of matter and solutions. The quantitative aspects of chemistry are stressed.

CH1201 - Chemistry
This is a continuation of CH1200. Major topics include: the gas laws, oxidation-reduction, electrochemistry, chemical nomenclature, chemical kinetics, nuclear chemistry and chemical equilibrium. The quantitative aspects of chemistry are stressed.
Prerequisite(s): CH1200

CH1350 - Urinalysis
This course will explore laboratory safety and urinalysis procedures. Students are introduced to the theoretical and practical aspects of Clinical Chemistry as related to routine urinalysis. Manual testing, using safe work practices and quality control are also studied.
Prerequisite(s): BL1600, ML1070, CH2340

CH2252 - Clinical Chemistry 1
This course is an intermediate level course in clinical chemistry that introduces students to the theoretical and practical aspects of the analysis of body fluids. It explores laboratory safety, quality control procedures, and basic principles of analytic techniques used in routine clinical chemistry. This course requires students to apply prerequisite knowledge and skills in laboratory sessions in the application of analytical procedures and clinical correlations for specific analytes including carbohydrates, lipids, lipoproteins, proteins, and NPNs. Quality control and its application are also studied.
Prerequisite(s): CH2340, CH1350, ML1090, MA1021

CH2330 - Petroleum Organic Chemistry
The course provides a foundation in organic chemistry that is required by petroleum technologists working in the upstream oil and gas industry. It also covers many of the standard chemical tests used in the oil and gas industry for analyzing crude oils.
Prerequisite(s): CH1121

CH2335 - Petroleum Chemistry
This course is designed to provide petroleum technology learners with a foundation of physical, inorganic and analytical chemistry as applied to the petroleum industry. Emphasis will be placed on the development of analytical and laboratory skills.
Prerequisite(s): CH2330

CH2340 - Biochemistry
This is an introductory course in biochemistry for Medical Laboratory Technology students. The organic chemistry framework includes the study of the carbon atom, chemical nomenclature and the structure of organic compounds. Major focus is on the structure, properties, and metabolism of carbohydrates, proteins, lipids, nucleic acids, non-protein nitrogen compounds, and acid-base balance, body water/electrolyte balance and enzymes.

CH2450 - Industrial Chemistry I
This course introduces students to industrial chemistry and concepts and terms used in industrial chemistry. The principal focus of this course is industrial chemistry as it applies to the use, analysis and treatment of water. Industrial chemical metallurgy is explored and students use pH, conductivity, dissolved oxygen and other analyzers – both laboratory and process.
Prerequisite(s): CH1121

CH2451 - Industrial Chemistry I
This course introduces students to industrial chemistry and concepts and terms used in industrial chemistry. The focus of this course is industrial chemistry as it applies to the use and analysis of water. Scale formation, industrial chemical metallurgy, NORM, and hydrogen production are explored. Students use pH, conductivity, dissolved oxygen and other analyzers – both laboratory and process.
Prerequisite(s): CH1121

CH2513 - Clinical Chemistry 2
This course is a continuation of CH2252 – Clinical Chemistry 1, and consists of a study of the theoretical and practical aspects of the analysis of the body fluids. This course will complete the study of the various chemistry analytes. Emphasis is on safe work practices and quality control as manual and automated methods are explored.
Prerequisite(s): CH2252

CH2715 - Analytical Chemistry
This is an introductory course in Chemical Analysis. It consists of classical methods of quantitative chemical analysis such as gravimetry and titrimetry, as well as simple instrumental techniques used for field measurement (pH, colorimetry, conductivity, and dissolved oxygen). Learners are also exposed to sampling and statistical treatment of data.

CH3450 - Industrial Chemistry II
This course is designed to provide students with the basics of organic chemistry as it is applied to the oil and gas industry. Oil refining, sweetening and treating processes are discussed. It also covers many of the standard chemical tests used in the oil and gas industry for analyzing crude oils and refinery products.
Prerequisite(s): CH2451

CH3510 - Clinical Chemistry Sim 1
This course builds upon previous topics in clinical chemistry. It requires students to apply their pre-requisite knowledge and skills in a simulated hospital laboratory setting. Emphasis is on safe work practices, automated analysis, quality control principles and result interpretation.
Prerequisite(s): CH2513

CH3511 - Clinical Chemistry Sim 2
This is a comprehensive course in clinical chemistry that requires students to apply their pre-requisite knowledge and skills in a stimulated hospital laboratory setting. Using appropriate safety guidelines, students practice the pre-analytical, analytical and post-analytical phases of the testing process for clinical specimens. Emphasis is on development of technical competence, use of quality assurance principles and application of critical thinking skills to data interpretation and instrument troubleshooting. It is designed to prepare students to enter the clinical phase of the program at an affiliated hospital.
Prerequisite(s): Successful completion of Semester 6

CH4510 - Clinical Chemistry Practicum
This course allows the student to develop technical competence while reviewing theoretical material from previous semesters. The three week hospital rotation will emphasize clinical procedures and acquaint the student with the hospital operation and administration.
Prerequisite(s): Successful completion of Semester 7

CI1110 - Signals & Measurements
This course will introduce the learner to the fundamental concepts of signals and measurements. Learners in the course will learn how to identify different types of signals, select the appropriate test equipment, take measurements, and interpret and report results.
Prerequisite(s): ET1101 or ET1140

CI1130 - Process Control I
This course provides the student with an introduction to process control terminology and diagrams as well as an introduction to process control strategies and signal transmission. It is designed to familiarize the student with the operating principles of measuring devices for pressure, level, flow, and temperature, as well as control valves used in industry.

CI1150 - Process Control II
The purpose of this course is to familiarize students with the various elements necessary in the design and implementation of process control in chemical process industries. It is designed to provide students with the basics of proportional, integral, and derivative (PID) controls as well as an overview of more advanced systems and control strategies. An overview of process automation, distributed control systems (DCS), SCADA system, and communication protocols is presented. Boiler control system will also be covered.
Prerequisite(s): CI1130

CI1210 - Instrumentation Controls & Automation
This course provides a comprehensive treatment of sensors and methods of measuring automated process variables. The learner will be introduced to the underlying concepts and operation of industrial measurement devices and control systems.

CI1221 - BET Electromechanical Systems
This course is intended to introduce the learner to the basic building blocks of pneumatic and electromechanical systems and assemblies used in biomedical diagnostic and therapeutic devices. Although most of these primary devices will be discussed in relation to health care instrumentation, they have application and use in many commercial and industrial systems. This course will provide the learner with information needed to better understand the complex pneumatic and electromechanical systems utilized in medical devices.
Prerequisite(s): CI1110, AE2331

CI1240 - Instrumentation, Motor Control and PLC
This course provides a comprehensive treatment of sensors and methods of measuring automated process variables. The student will be introduced to the underlying concepts and operation of industrial measurement devices and control systems, including motor operations, programmable logic controllers (PLC) and ladder logic.

CI1313 - Fabrication Techniques/Network Cabling
This is a practical electrical/electronics course for students entering the primary electrical / electronics technical intersession. This course enables the student to obtain practical knowledge in soldering, wiring, network cabling, fabrication and proper use of test equipment as related to accepted procedures found in industry.
Prerequisite(s): ET1101

CI1321 - Electrical/Electronic Fabrication Techniques
This is a practical electrical/electronics course for students entering the primary electrical / electronics technical intersession. This course enables the student to obtain practical knowledge in soldering, wiring, fabrication and proper use of test equipment as related to accepted procedures found in industry. As well, students receive an introduction to environmental citizenship and ethics from an electronics industry perspective.
Co-requisite(s): ET1140

CI1360 - Basic Process Automation
In this course the participants will run existing processes to determine the types of the devices used to measure level, flow and other parameters within a plant and how the final control elements interact with the automation control system.

CI1520 - Process Analyzers I
This course examines the role of chemical analyzers in monitoring and controlling industrial processes. Statistical principles are applied to process analyzer systems and the validation of process analyzers. The operating principles of electrochemical analyzers and physical property analyzers are studied and students learn to calibrate, install and troubleshoot these analyzers as well as perform routine maintenance on them. Factors affecting corrosion and the use of analyzers in the prevention and measurement of corrosion is also studied.
Prerequisite(s): CH1121, CI2230

CI2110 - Pressure and Level Measurement and Control
This is the second core instrumentation course designed to reinforce the basic instrumentation concepts previously covered. The various types of transmitters used to measure pressure and level will be covered in detail. The control section of the course will show how the transmitters are used in a control loop.
Prerequisite(s): CI1360

CI2120 - Final Control Elements and Instrument Air Systems
This course focuses on the various types of control valves and damper operators as well as the auxiliary devices used to position and supply power to the actuator. The final section of the course covers how Instrument Air is produced for an industrial plant.
Prerequisite(s): CI1360

CI2230 - Flow and Temperature Measurement and Control
This course develops further understanding of types of control strategies and introduces students to the principles and operation of flow and temperature control systems, with an introduction to cascade and feed forward control systems.
Prerequisite(s): CI2110

CI2250 - Hydraulics
This introductory course is designed to acquaint the learner with the design and operation of industrial hydraulic systems. It includes a review of the selection and integration of the components used to build and control hydraulic circuits. Operational control and troubleshooting of basic circuits is an integral component of the course.

CI2310 - Advanced Control Strategies
This course covers advanced PID control strategies with an emphasis on boiler control.
Prerequisite(s): CI2230, MP3170, MA2100
Co-requisite(s): CI3860

CI3120 - Safety Shutdown and Machine Monitoring Systems
This course covers basic shutdown systems on boilers and then covers the safety shutdown systems found in the oil and gas industry. The course also introduces software that can be used for process and optimization.
Prerequisite(s): CI2310, CI3860

CI3200 - Statistical Process Control
This course provides the student with an introduction to statistical concepts as they relate to the chemical process industry. It is designed to familiarize the student with quality and statistical process control, descriptive and inferential statistical concepts, probabilistic methods, normally distributed data, control charts, and process capability analysis. These concepts are examined to enable the student to understand how chemical processes are controlled and improved in industry.
Prerequisite(s): MA1101

CI3400 - Biomedical Instrumentation I

This course will introduce learners to the fundamental principles inherent in the collation of bioelectric signals and familiarize them with aspects of electrodes, filters, amplifiers and transducers. Learners will also be introduced to instrumentation related to cardiac measurement and defibrillation, non-invasive blood pressure monitoring, medication infusion systems, physiotherapy modalities, and electroencephalograms. Laboratory exercises will incorporate extensive investigation of the sub-assemblies used in selected biomedical equipment. This will also include site visits to local health care facilities.
Prerequisite(s): AE2301 or AE2331, CI1110, Certificate of completion of Government of NL PHIA course, Signed and witnessed Confidentiality Agreement, Current letter of conduct and vulnerable sector clearance

CI3412 - Biomedical Instrumentation II

This course is intended to broaden the learners' knowledge of medical instrumentation by introducing more sophisticated systems such as multi-parameter patient monitoring systems, central station monitoring, instrumentation, operating room systems such as electrosurgery units and laser surgical tools, as well as an introduction to medical imaging devices.
Prerequisite(s): CI3400, CG1205, Certificate of completion of Government of NL PHIA course; Signed and witnessed Confidentiality Agreement, Current letter of conduct and vulnerable sector clearance

CI3510 - Advanced Medical Systems

This course is intended to broaden the learners' knowledge of medical instrumentation by introducing more sophisticated systems such as: hemodialysis systems, respiratory instrumentation, pulmonary function equipment as well as water treatment and oxygen generation systems.
Prerequisite(s): CI3400, Certificate of completion of Government of NL PHIA course, Signed and witnessed Confidentiality Agreement, Current letter of conduct and vulnerable sector clearance

CI3600 - Industrial Process Control

This is an introduction to Process Control Systems, designed to provide students with the basics of PID Control as well as an overview of more advanced systems.
Prerequisite(s): CI1210

CI3821 - Process Analyzers

This course will examine the role of chemical process analyzers in monitoring and controlling industrial chemical processes. The course examines the study of electrochemical, spectroscopic, chromatographic and physical property analyzers that a chemical processing technologist would be expected to routinely manage in industry. The basic operating principles, and the most common problems associated with their use, will be studied. An overview of the sampling systems associated with process analyzers and the maintenance of these systems will be covered. Laboratory work will involve calibrating, using and troubleshooting a variety of laboratory and process analyzers.
Prerequisite(s): CI1130

CI3822 - Process Analyzers II

The operating principles, calibration and limitations of various types of oxygen, flammable and toxic gas sensors are examined. The principles of operation of various compositional and light based analyzers are studied. Utilizing a variety of analyzers, the various interactions of materials and electromagnetic radiation as applied to analysis are studied. The roles of the sampling handling and conditioning system as part of analysis are examined.

In laboratories students set up, calibrate and trouble shoot various gas, compositional and spectroscopic analyzers detectors.
Prerequisite(s): CI1520

CI3860 - DCS

The purpose of this course is to familiarize the learner with the distributed control systems (DCS) and Safety Instrumented System (SIS) used by the processing industries. Learners will also learn Functional Block Diagram (FBD) programming language that is widely being used in DCS as well as Process Automation Systems (PAS).
Prerequisite(s): CE2810, CI2230, DP3110, CE2940
Co-requisite(s): CI2310

CJ2110 - Canada's Justice System

This course provides students with an overview of Canada's Criminal Justice System. The course gives students an understanding of the philosophy and principles underlying the Canadian system and then provides them with knowledge of the entire criminal process from arrest to criminal procedures to sentencing to punishment to community reintegration.

CJ2210 - Youth Justice in Canada

This course introduces the student to the specific components and functions of the youth justice system in Canada. Following a review of legislation dealing with youth crime, the course will trace the movement of the young offender through the justice system, from the commission of the offence through to the disposition and sentencing.

CL1110 - Material Balancing

This course places a strong emphasis on developing problem solving skills. Students work in a variety of engineering units. Students solve material balance problems. The stoichiometry of industrial chemical reactions is examined and calculations associated with these are performed. Properties of steam are introduced.
Prerequisite(s): CH1121, MA1101

CM1010 - Communications I for Aboriginal Students

This course has been developed for aboriginal students using culturally relevant materials. The academic focus of this course will be the advancement of reading and writing skills. The writing process will be covered in detail, as will basic grammar and structural mechanics. To develop a variety of reading strategies, students will examine and interpret a number of culturally relevant texts, including informational, graphic, and literary texts (poetry, short fiction and a novel) written by aboriginal writers.

CM1011 - Communications II for Aboriginal Students

This course has been developed for aboriginal students using culturally relevant materials written by First Nations' writers. In this course, reading comprehension will continue to be enhanced through an exploration of dramatic and non-fictional texts (including aboriginal life-writing/memoir). The essay will be examined in detail and the writing process applied to its structure.
Prerequisite(s): CM1010

CM1012 - Communications III for Aboriginal Students

This course has been developed for aboriginal students using culturally relevant materials. Its focus will be the development of research paper writing and oral presentation skills. The emphasis will be upon the processes involved in the critical analysis of contemporary aboriginal culture, as well as the effective presentation of findings. Students will learn skills relevant to research, exposition and speaking publicly.
Prerequisite(s): CM1011

CM1030 - Essay Writing for EASA Exams

This course will provide the student with a knowledge of essay writing that will enable them to write accurate technical essays as answers for exam questions.

CM1060 - Essential English I •

Essential English I is a Comprehensive Arts and Science (CAS) College Transition course. It is the first of two English courses designed to give students a solid foundation in writing skills and to prepare them for success in subsequent post-secondary studies. Through varied writing assignments and revisions, students will achieve a college level of proficiency in English. Students may also meet the admission requirements for CAS Transfer: College-University and other post-secondary programs through the successful completion of Essential English I and II.

CM1061 - Essential English II •

Essential English II is a Comprehensive Arts and Science (CAS) College Transition course. It is the second of two English courses designed to give students a solid foundation in writing skills and to prepare them for success in subsequent post-secondary studies. Through varied writing assignments, revisions and numerous grammar exercises, students will achieve a college level of proficiency in English. Students may also meet the admission requirements for CAS Transfer: College-University through the successful completion of this course.
Prerequisite(s): CM1060

CM1090 - CRW I: Telling Stories

CRW I: Telling Stories focuses on the language encountered in reading and the language we use to record our reading experiences. This course is transferrable to MUN English 1090 or English 1000 and is recognized as a Critical Reading and Writing (CRW) course at Memorial University. All sections of this course follow CRW course content guidelines of Memorial University.
Prerequisite(s): Minimum of 60% in English 3201 or in the former combination of Language 3101 and a minimum of 60% one of Thematic Literature 3201 or Literary Heritage 3202. Adult Basic Education graduates must have a minimum of 60% in IC3112 and IC3321 or English 3101A, 3101B, and 3101C (to meet MUN's admissions requirements)

CM1100 - Writing Essentials •

Writing Essentials is an introductory course designed to review writing fundamentals including grammar, punctuation, spelling, and usage. Students will apply principles of writing in sentence and paragraph construction.

CM1145 - CRW II: Rhetoric

This course is an introduction to the writing and analysis of prose. Students will analyse prose writing and practise a number of writing strategies that consider a variety of audiences and purposes. The course furthers the development of writing and analytical skills acquired in CM1090 – CRW I: Telling Stories, and introduces the student to writing intended to critique, persuade, and analyze. This course is transferable to MUN English 1110 and is recognized as a Critical Reading and Writing (CRW) course at Memorial University. All sections of this course follow CRW course content guidelines of Memorial University.
Prerequisite(s): CM1090 or MUN English 1090

CM1170 - Essentials for Communication & Documentation

This course is designed to provide knowledge and skills necessary to communicate and document information effectively in the health care setting. It explores the concepts of selfawareness, culturally sensitive care, the communication process, communication techniques, and potential barriers to communicating effectively. Students will be familiarized with introductory writing skills, medical terminology, and abbreviations. There is an emphasis on the care planning process and the importance of documentation from professional, legal and employer perspectives.

CM1180 - College English I (Reading Across the College Curriculum)

This is an English course designed for Comprehensive Arts and Science students who need to improve their reading skills and strategies in order to successfully complete the reading requirements of their chosen post-secondary program. The course focuses on the common elements of successful reading across all curriculum areas, as well as the ways in which various areas require the use of different reading skills and strategies. The principal focus of this course is reading to learn. Students will strengthen reading skills and develop strategies appropriate to their areas of study through working with selected course materials and exercises in various curriculum areas (including math and laboratory sciences) at the introductory level of their chosen post-secondary program.

CM1191 - CRW II: Self and Society

This course studies a variety of texts that explore the interaction between individual desires and social identities. This course is transferable to MUN English 1191 and is recognized as a Critical Reading and Writing (CRW) course at Memorial University. All sections of this course follow CRW course content guidelines of Memorial University.
Prerequisite(s): CM1090 or MUN English 1090

CM1192 - CRW II: Imagined Places

This course aims to increase the learner's sensitivity to language through examination of the role of setting in imaginative writing. This course is transferable to MUN English 1192, and is recognized as a Critical Reading and Writing (CRW) course at Memorial University. All sections of this course follow CRW course content guidelines of Memorial University.
Prerequisite(s): CM1090 or MUN English 1090

CM1200 - Oral Presentations

This is a seminar course in oral presentations which attempts to blend theory and practical skills. In addition to considering how oral communications affect group and interpersonal relationships, the student will analyze techniques in the preparation and delivery of oral presentations and will practice these techniques in prepared and impromptu presentations.

CM1215 - Personal & Career Development Seminars

These seminars are designed to help students develop the essential knowledge and skills necessary for career development. The seminars aim to prepare students for the transition from the academic setting to the workplace setting. Emphasis will be on leadership, goal setting, job searching, interview process, and skills development. Students will also reflect on personal attributes, values, and experiences that may impact their careers.
Prerequisite(s): Successful completion of semester one courses

CM1240 - Business Communications I •

Business Communications I is designed to introduce students to the writing requirements of business environments. The course is intended to provide ample in-class opportunities to review writing fundamentals and improve writing skills using common business applications.

CM1241 - Business Communications II •

Business Communications II is designed to further students' knowledge and competence in preparing business documents for the workplace. The course is intended to provide opportunities to improve writing skills using various business applications.
Prerequisite(s): CM1240 or equivalent

CM1250 - Communications in the Workplace

This course will provide students with essential workplace communication skills. Topics covered include the communication process, effective writing, business correspondence, informal reports, oral presentations and job search techniques.

CM1270 - Communications in Health Care •

This course is designed to enable the student to communicate clearly, concisely, and correctly in both written and oral forms in the health care setting. Emphasis is placed on medical documentation and oral communication with healthcare professionals, clients, and families.

CM1370 - IM Communications •

This course gives the student the knowledge and skills to design and conduct workshops, design and conduct interviews, design and administer questionnaires and to draft policies and procedures. The examples used and the deliverables created will apply to the field of Information Management.

CM1400 - Technical Report Writing I •

This course is designed to teach technology students the fundamentals of technical reporting.   Emphasis is on strategies of technical reporting, research techniques and organizational skills.

CM1401 - Technical Report Writing II •
This course is designed to help students formulate criteria for structuring informal and semi-formal reports. Various report formats will be examined with emphasis on statistical data analysis, documentation and illustration methods. Oral reporting techniques will be enhanced through problem-solving reports and the technical sales presentation.
Prerequisite(s): CM1400 or equivalent

CM1450 - Writing Fundamentals
This course is designed to introduce students to written communications in the workplace. It provides considerable practice in constructing and editing effective sentences and paragraphs as well as writing clear, concise summaries that are properly documented.

CM1460 - Writing for the Workplace
This course is designed to introduce students to written communication in the workplace and provide considerable practice in writing clear, concise summaries that are properly documented. The intent is to provide ample in-class opportunities to review writing fundamentals and improve writing skills using workplace applications.

CM1520 - Writing for the Arts •
This course will introduce students to the writing of artistic critiques, appreciations, and proposals. Emphasis will be placed on applied writing exercises that require philosophical reflection and that will expand students' vocabulary and increase their effectiveness as communicators in their field.

CM1521 - Writing for the Arts •
This course will introduce students to the practice of effective research, writing of artistic critiques, appreciations, and proposals. Emphasis will be placed on applied writing exercises that require philosophical reflection and that will extend students' vocabulary and increase their effectiveness as communicators in artistic fields.

CM1530 - Proposal Writing
In this course students will learn the necessary skills to write successful proposals. Students will formally research funding sources, identify personal areas of interest, and complete an actual proposal for submission. Students will also be expected to present, defend, and critique their proposals.

CM1550 - Creative Writing
This course provides an opportunity for students who are interested in writing poetry, short fiction, or drama to share ideas and innovations. Students will examine a variety of themes, styles, and techniques which can broaden their own creative explorations. The course encourages students to discover and develop styles appropriate to their own literary aspirations.

CM1680 - Writing for the Screen
Students will acquire advanced skills in critical narrative development, formal presentation, and the screenwriting craft. It expands on previously covered material on film direction, pre-production and narrative fundamentals to create a detailed creative synopsis or "treatment" and a screenplay in a prescribed format.

CM2100 - Workplace Correspondence •
Students will study the principles of effective writing as well as using technology for the purpose of communicating effectively. Applications include letters, memos, and short report writing. This course also allows students to explore job search techniques.

CM2110 - Business Writing Fundamentals •
Business Writing Fundamentals gives students the opportunity to apply the principles of effective business writing. Applications include letters, memos, e-mail and informal business report writing. This course also allows students to explore job search techniques.
Prerequisite(s): CM1100

CM2130 - Workplace Writing •
Students will be introduced to the principles and practices of effective written communications applicable to their program of study. They will understand the importance of well-developed writing skills; the purpose of various types of correspondence; examine the principles of effective writing; examine standard formats for letters and memos; write effective letters and memos; examine the fundamentals of informal reports and the report writing procedure, and develop an effective resumé.

CM2160 - Communication Essentials
This course is designed to introduce learners to the principles of effective communication including letter, memos, short report writing, oral presentations and interpersonal skills. Learners will apply the principles using trade specific examples.

CM2200 - Oral Communications • ®
In this course, students will develop interpersonal, oral communication, and presentation skills in a team-based environment.

CM2201 - Oral Communications
In this course, students will develop interpersonal, oral communication, and presentation skills in a team-based environment.

CM2202 - Oral Communications •
In this course, students will develop interpersonal, oral communication, and presentation skills in a team-based environment.

CM2300 - Report Writing •
This course will stress skill development in planning, researching and documenting, preparing graphic aids, proofreading and editing, and completing formal reports.

CM2800 - Oral/Written Communication Skills
This course will provide students with instruction in the areas of writing technical reports and the delivery of oral presentations. Emphasis will be placed on the processes involved in effective writing and effective presentations as they pertain to specific technologies. Students will learn relevant skills for researching, organizing, writing and presenting technical information.
Prerequisite(s): CM1401 or CM1460

CP1010 - File Management and Security •
This course introduces the student to file management, cloud computing and computer security. Students will first perform file management utilizing a Microsoft Windows operating system using both the graphical user interface and command line. File management will then be examined utilizing cloud technologies. Students will subsequently look at overall security for a corporate and home network environment exploring how to secure data and personal information.

CP1120 - Fundamentals of Programming I •
This course is designed to give the student the logic involved in the computing process and the ability to develop an algorithm to describe the solution to a given problem. The student will analyze, design, choose an algorithm, code, test and debug applications. Algorithms will be implemented using an object oriented programming language.
Co-requisite(s): MA1900

CP1210 - JavaScript
This course introduces the student to the fundamentals of JavaScript programming and the use of JavaScript as the third pillar of modern web page/web site design. The student will use the basic programming constructs to add functionality to a page and to manipulate the Document Object Model (DOM). Finally, the student will use AJAX and JSON to perform data transfers from the client to the backend server and vice versa.
Prerequisite(s): CP1190 and CP1120 or CP1850 and CP1520

CP1211 - JavaScript
JavaScript is among the most powerful and flexible programming languages available and one of the most popular languages used in web development. This course will introduce students to the programming fundamentals of the JavaScript language, where students will learn basic programming constructs to add various functionality to webpages. Topics will include an introduction to HTML and CSS, JavaScript programming structures, the manipulation of the Document Object Model (DOM), and the use of AJAX and JSON to perform data transfers between the client and server.

CP1212 - Introduction to JavaScript •
JavaScript is among the most powerful and flexible programming languages available and one of the most popular languages used in web development. This course will introduce students to the programming fundamentals of the JavaScript language, where students will learn basic programming constructs to add various functionality to webpages. Then the student will explore jQuery one of the most popular libraries used to help in JavaScript development.

CP1270 - Programming Fundamentals
The course introduces the fundamental concepts of problem solving and procedural programming techniques used to design and implement computer solutions to problems in engineering and mathematics.

CP1290 - Advanced JavaScript
This course enhances the student's knowledge of JavaScript programming. The course covers the jQuery, jQuery UI and jQuery Mobile libraries. As well, the course will cover the use of the APIs for YouTube, Twitter, Flickr and Google Maps.
Prerequisite(s): CP1210

CP1291 - Advanced JavaScript
JavaScript is one of the world's most popular programming languages, and one of the major components of building web applications. This course is designed to expand on topics covered in CP121X JavaScript and will continue to enhance student skills and knowledge of the JavaScript programming language. Students will learn effective approaches to develop JavaScript applications and master advanced features of the language such as objects, closures, callbacks, modules, and the use of JavaScript Object Notation (JSON).
Prerequisite(s): CP1211

CP1292 - JavaScript and NodeJS •
JavaScript is one of the world's most popular programming languages, and one of the major components of building web applications. This course is designed to expand on topics covered in CP1212 Introduction to JavaScript and will continue to enhance student skills and knowledge of the JavaScript programming language. Node.js is introduced building on the students JavaScript skills enabling web application development for the front and back-end. Students will learn effective approaches to develop applications and master advanced features such as objects, closures, callbacks, modules, and the use of JavaScript Object Notation (JSON).
Prerequisite(s): CP1212

CP1330 - Windows Server Administration •
This course provides students with the knowledge and skills to perform post-installation and day-to-day administration tasks in Windows domain.
Prerequisite(s): CR1105 or CP1570 or CP1880

CP1332 - Advanced Windows Enterprise Server
Building on the skills developed in CP1465 Windows Server Administration, this course enhances the student's ability to administer a Microsoft Server. It focuses on the skills and knowledge necessary to administer an infrastructure in an enterprise environment.
Prerequisite(s): CR1105, CP1465

CP1340 - Object Oriented Programming
The course is designed to give the learners a thorough grounding in the principles of object oriented programming. Additional topics include exception handling design and implementation of Java applications with Swing graphical user interface and multithreading in the Java programming environment.
Prerequisite(s): CP1270

CP1410 - E-Commerce Web Analysis and Design •
This course introduces students to the concepts of systems analysis and design for the Web. It gives a fundamental overview of the Web site development process, and details the iterative cycle of planning, analysis, design and development, and testing. Emphasis is placed on designing an effective, user-centered, accessible commerce based Web site.
Prerequisite(s): CR1511

CP1420 - Web & Mobile App Development
This course will provide the student with a basic understanding of the online technologies and tools available to create professional looking web sites, mobile web sites and mobile apps. It uses simple free on line content provided by the web hosting company to quickly develop a web site, a mobile web site and a mobile app. It will give the student an appreciation and understanding of the types of sites and applications that they will learn how to develop in the program.

CP1461 - Operating Systems
This course introduces students to a broad range of operating system concepts that cover both Windows, Linux, and mobile environments. It provides students with the knowledge and skills required by that of a developer to utilize various operating systems effectively, including installation, maintenance, management, and security considerations.

CP1465 - Windows Server Administration
The first of two Microsoft Server Courses. Upon completion of this course the student will have the skills and knowledge necessary to implement a core Windows Server infrastructure in an existing enterprise environment. The student will be able to implement and configure Windows Server core services, including Active Directory and the networking services. The skills necessary for implementing, managing, maintaining, and provisioning services and infrastructure in a Windows Server environment.
Co-requisite(s): CR1107 or CP1570

CP1501 - Business & E-Commerce •
This course provides the student with an overview of business, e-commerce, business models, virtual value chains, social innovation, and marketing strategies. The course includes some of the major issues associated with business and e-commerce including security, privacy, intellectual property rights, authentication, encryption, acceptable use policies, and legal liabilities. Upon completion of this course, the student will understand the basics of business and e-commerce, social and mobile marketing, and how to develop a digital presence.
Prerequisite(s): EP1130

CP1505 - Designing Effective E-Commerce Sites •
The Designing Effective E-Commerce Sites course provides students with an opportunity to utilize and demonstrate the tools, knowledge, and skills developed during the first year of the program. Students will design and create a multimedia-rich E-Commerce Site using WordPress based on a given set of criteria. Emphasis is placed on creativity of design and effective use of technology.
Prerequisite(s): CM1401, CR1511, CP1410

CP1520 - Web Development
This course teaches the student essential concepts of HTML and CSS. The student will begin with developing a basic web page and move on to developing a basic website. Then the student will create web page forms, and work with cascading style sheets. Next, the student will work with Content Management System to create dynamic web pages and websites.

CP1555 - Intro to Relational Databases
This course will provide the student with the necessary general understanding of Databases and Relational databases. The student will learn the basic structure of a relational database management system, how they are implemented, basic queries / SQL statements to properly and successfully retrieve, add, edit and delete the data based on given criteria.

CP1570 - Networking for Programmers •
This course will provide an introduction to network communication media, topology, protocols and software architecture. The course will present the model of information communication that speaks to the business environment in particular. The OSI model, TCP/IP and the WAN protocols will be discussed. Topics include: requirements for the business communication media, network topologies, LAN, WAN, Wireless WAN, distributed applications, OSI Model, and TCP/IP.

CP1580 - Using Internet APIs •
Including content and services from other providers is an important aspect of web development. In this course, the student will focus on how to use the APIs of other service providers to develop a web application. Topics will include an introduction to the APIs, and OAuth. Working with third party APIs and working with E-Commerce APIs. At the end of the course students will be able to create web applications that utilizes content provided through third party API's and will perform E-Commerce transactions utilizing payment processors APIs.
Prerequisite(s): CP1292

CP1640 - Visual Basic Applications for ACAD
This course is designed to give the student exposure to programming logic and data linking between graphics information and text/numerical data. The student will develop the ability to reduce an algorithm into linear components for solution by computer. The course will concentrate on utilizing Visual Basic algorithms to perform surveying functions which automate the drafting process. Menu customization will also be covered to complete the ACAD customization.
Prerequisite(s): SU1321

CP1850 - Procedural Programming
This course is designed to give the student the logic involved in the computing process and the ability to develop an algorithm to describe the solution to a given problem, with implementation using a programming language of choice. The student should also be able to analyze, design, develop, code and debug a solution to a programming problem based on the introductory programming concepts introduced in this course.
Co-requisite(s): MA1900

CP1855 - Introduction to Programming with Python
This course will introduce students to Python programming. Python is a widely used programming language in fields such as web development, data science, and artificial intelligence. Students will begin with the basics of writing and running python scripts, and advance through concepts such as conditional code and flow control, functions, loops, modules, testing, debugging and exception handling. Upon completion, students will be able to analyze, design, develop, code, and debug a solution to a programming problem based on provided scenarios.

CP1890 - Object-Oriented Programming
This course is designed to give the student intermediate skills in the computing process and the ability to develop an algorithm to describe the solution to a given problem, with implementation using an object oriented programming language. This course uses object oriented technologies using a selected development environment to aid the student in developing a GUI solution to business problems.
Prerequisite(s): CP1850 or CP1120 or CP1855

CP1895 - Advanced Python Programming •
In this course, students will learn advanced Python programming concepts and features, expanding upon the fundamental skills acquired in the Introduction to Programming with Python. Core concepts include a variety of structures such as dictionaries, stacks, queues, sets, trees and algorithmic complexities and the application of object oriented design principles to build software using the appropriate data structures. Content will focus on the applied use of python to solve modern day problems utilizing one or more popular frameworks.
Prerequisite(s): CP1855

CP1923 - Computer Hardware and Troubleshooting I
This course is designed to expose the students to the basic components of a computer system, operating system, and methods of troubleshooting. The student will learn how to: evaluate, install, configure, troubleshoot and specify all basic computer components such as CPUs, Memory, and Storage Devices. It will also cover such topics as: Operating systems, computer repair fundamentals, chipsets, buses and expansion slots. Students will gain a complete, step-by-step approach for learning the fundamentals of supporting a computing infrastructure and for learning the fundamentals of supporting and troubleshooting computer hardware and software.

CP1927 - Computer Hardware and Troubleshooting II
This course focuses on the installation, configuration, security, and maintenance of a Windows operating system on a computing device. Topics also include the Windows startup sequence and customer service strategies. The student is also introduced to the MacOS and Linux operating systems.
Prerequisite(s): CP1923

CP1935 - Systems Analysis I
This course introduces students to the concepts of Systems Analysis and Design utilizing an object-oriented approach. The aim is to provide the student with a practical, hands-on skill set of the latest object-oriented design method using the Unified Modeling Language (UML) using the Unified Process. The course is laboratory oriented allowing the student to develop real design for use with Object Oriented programming languages. It reviews all phases from an object oriented approach but concentrates on the various types of UML modeling.
Co-requisite(s): CP1850 or CP1855

CP1945 - Systems Analysis II
This course covers the activities required to successfully build an information system. It introduces students to Project Management, managing programming, testing and documenting. This course also covers how to make use of common design patterns using Java or C# to aid in creating standardized and efficient solutions in software design and programming.
Co-requisite(s): CP1935, CP1890 or CP1895

CP2000 - Embedded Linux
This course will provide the student with an introduction to the Linux operating system and its use in electronic instrumentation. The student will be instructed in the use of the command line environment as well as the maintenance and support of embedded Linux.

CP2010 - Frameworks •
Frameworks speed up the development process. They have the added benefit of helping teams work with standardized workflows and notations. Students will learn to use the JavaScript framework VueJS to build fast responsive web applications. Students will also use the CSS framework TailwindCSS to style their websites so that it has a unique look and feel.
Prerequisite(s): CP1292

CP2030 - AWS Cloud Development •
The Amazon Web Services (AWS) Cloud Development course is designed to give students the technical knowledge and skills required for building secure, reliable cloud-based applications using the AWS technology. The students are introduced to AWS and will use the broad range of tools available such as global compute, storage, databases, analytics, application and deployment products and services. With these tools, students will be able to help businesses scale and build applications with increased flexibility, scalability, and reliability.
Prerequisite(s): CP1895 or CP1292

CP2070 - Social Media Management •
This course is designed so that students will use digital/social/mobile marketing's true value to enhance business for consumers, managers, and other corporate stakeholders. It will provide students with the relevant knowledge, perspectives, and practical skills required to develop marketing strategies that leverage the opportunities inherent in social media and consumer-to-consumer social interactions for achieving business and marketing goals. Students will learn the use of social media to increase brand awareness, identify key audiences, generate leads, and build meaningful relationships with customers. Students will be equipped with general theories and knowledge when it comes to social media marketing; and how to utilize new and constantly updated social media marketing strategies for businesses. By the end of the course, students will know how to implement a successful content strategy for Facebook, Instagram, Twitter, Snapchat, Pinterest, LinkedIn, HootSuite and YouTube.
Prerequisite(s): CP1501

CP2075 - Digital Analytics •
This course exemplifies how marketing analytics are the foundation to digital marketing. Students will learn how analytics is the language used to optimize and connect results across all digital marketing tactics (search, social media, email, display, video, etc.). The technical and soft skills of analytics will be highlighted through theory and practical application to better understand data analysis. Upon completion of the course, the student will be able to explain and apply the logic of optimization and attribution in business analytics. The student will be able to apply the practical tools and techniques of business analytics and run field experiments in digital environments using A/B testing. The student will also practice web analytics for better business decision-making.
Prerequisite(s): CP1232, CP2070

CP2080 - Salesforce Development •
This course will introduce the student to skills and concepts that are essential to develop in the Salesforce echo system. Upon completion of this course, the student will be able to create business to consumer ecommerce websites quickly using Salesforce B2C Commerce.
Prerequisite(s): CP2010

CP2085 - Orientation to the EWeb Work Exposure •
The work exposure is an integral part of the Enterprise Web Development program's curriculum. Work exposure opportunities are arranged by the Work Exposure Coordinator for the program but ultimately must be secured by students in competition with all applicants for the position. This course focuses on content that will assist students in finding a meaningful placement and prepare students for a career in enterprise web development by fine-tuning the skills cultivated throughout the program.

CP2110 - Advanced Electronic Spreadsheets •
This course allows students to build on the basic concepts and applications of electronic spreadsheets. Students will create, format and print advanced worksheets and graphs and will incorporate advanced functions and macros into their spreadsheets. They will summarize, consolidate, and analyze data using a variety of spreadsheet features. They will also use tables and data tools features to manipulate data. They will be able to create and format new professional business document using a variety of spreadsheet features and analyze the data to make appropriate business decisions.
Prerequisite(s): CP2310

CP2130 - Fundamentals of Programming II •
This course is designed to take the students further in the problem solving, logic, and programming techniques introduced in CP1120. This course uses the same programming language as the first programming course so that advanced concepts can be developed. The student will design and create interactive commercial and production-oriented applications.
Prerequisite(s): CP1120

CP2205 - Advanced PHP Laravel •
This course will introduce the student to skills and concepts that are essential to develop and maintain a web application using the Laravel PHP framework. Upon completion of this course the student will be able to create powerful database-driven websites quickly in a scalable, re-usable, repeatable way.
Prerequisite(s): CP2426

CP2275 - Java Programming
This course is designed to give the students the basics of Object Oriented Java. Students will obtain hands-on experience writing, compiling, and executing Java programs that make use of Java's object-oriented features. Students will create a GUI, connect and retrieve information from a relational database. Students will be introduced on how to code utilizing the already familiar fundamental constructs in Java.
Prerequisite(s): CP1890

CP2280 - Object-Oriented Programming in Java •
This is a course in object-oriented programming for students with no experience with Java but some knowledge of a strongly typed language. Examples and assignments typify standard business applications. The course stresses key object-oriented design concepts and their implementation rather than exhaustive coverage of the Java language itself.
Co-requisite(s): CP1120 or CP1850 or CP1855

CP2285 - Big Data Programming with Java
This course is designed to give the students experience with understanding, and using Hadoop to work with Big Data. It will introduce the Hadoop Ecosystem, set up of Hadoop, and explain storage and how to access data. It introduces the student to Hadoop's ecosystem and framework of open and closed source tools, libraries and methodologies for "Big Data" analysis.
Prerequisite(s): CP2275, CP1461

CP2310 - Electronic Spreadsheets •
This course will introduce students to the concepts and applications of electronic spreadsheets. Students will create, format and print enhanced worksheets and graphs, and will incorporate functions into their spreadsheets. They will also use table features to format and analyze data.

CP2410 - Micro Database Applications •
This course introduces the student to the concepts and applicants of database. Students will create, modify and update a database as well as database forms and reports for use in a business environment. They will also perform database functions and use database commands.

CP2420 - PHP •
This hands-on PHP programming course uses open source software, PHP, and a database, to provide the student with the applied skills to build professional-quality, database-driven Web sites. By integrating PHP and the database with XHTML and CSS frameworks, the student will develop the skills to build interactive Web sites with authentication and security. The student will expand the functionality of a comprehensive Web site project that can be directly translated or easily modified to be used as a real-world Web application.
Prerequisite(s): CP1570, CP1120, CR1510, CP3510

CP2426 - PHP •
This PHP programming course uses open source software, PHP, and a database, to provide the student with the applied skills to build professional-quality, database-driven Web sites. By integrating PHP and the database with HTML and CSS frameworks, the student will develop the skills to build interactive Web sites with authentication and security.
Prerequisite(s): CR1511, CP1292, CP3510

CP2470 - Web Server •
This course will introduce the student to skills and concepts that are essential to setting up and maintaining an Internet presence. Topics include web site administration, server installation, domain name services, web server management, web server programming environment, extending web server services, securing the web environment, and monitoring the web environment.
Prerequisite(s): CP1570

CP2530 - Data Structures & Algorithms

This course builds on the foundation provided by Programming Fundamentals and Object Oriented Programming. It introduces the fundamental concepts of algorithm analysis and design as well as dynamic data structures. Prerequisite discrete mathematics concepts are introduced as appropriate.
Prerequisite(s): CP1340

CP2561 - Java Programming II

This is a second course in Java for students who have already completed a one-semester course in object-oriented programming in Java. Examples and assignments typify standard business applications. The course stresses using object-oriented design concepts to develop relatively sophisticated applications in Java. Topics include but are not limited to:
Installing the Java Development Kit (JDK), String Processing; Graphics and Java2D components; Event-handling; Exception Handling; Multithreading; File and Stream I/O; Internet Networking; Multimedia; Utilities Package and Bit Manipulation; Collections API.
Prerequisite(s): CP2275 or CP2280

CP2640 - Desktop Publishing •

Using desktop publishing software, students will prepare newsletters, flyers and other publications which require professional design elements such as columns, boxes, tables, various font faces and styles, rules, and graphic pictures.
Prerequisite(s): DM1200 or MC1240

CP2730 - Project Management and Analysis

This course is designed to help the student understand the workings of project management/analysis and understand its importance to improving the success of information technology projects. The student will complete a major project that concentrates on project management/analysis as it applies to the infrastructure support area. Project management software, such as Microsoft Project, will be used throughout the course to complete coursework.
Prerequisite(s): CR1105

CP2845 - Database Programming with .NET

This course is designed to give the student advanced skills in the computer programming process. This course uses the .NET framework to aid the student in developing solutions to business problems. It incorporates skills required in the programming field such as: using collections, XML, and data access and reporting using the .NET framework.
Prerequisite(s): CP1890, CP3415, CP1555

CP3000 - Emerging Trends in Applied SD

The goal of this course is to solidify the student's understanding of the latest advancements in the field of applied software development. Students will build upon the material covered in the first emerging trends course by applying that knowledge in developing applications that resemble the real-world software development industry.
Prerequisite(s): CP4471

CP3010 - Server Side Programming

The course is designed to build upon existing JavaScript skills and to provide a comprehensive overview of web application development using Node.js by focusing on the core competencies required to develop Node.js applications for the enterprise. Students will learn the fundamentals of server-side web development using MongoDB (a NoSQL database), Express.js (for building web servers), and Node.js. These tools and concepts will introduce students to models of software development that can apply to any web development environment, including the application server (node.js), Model View Controller (MVC) frameworks using Express.js, front-end frameworks (e.g. Angular), and databases (MongoDB). The course includes setting up a node.js environment, building web APIs and full-stack JavaScript applications, and following good application development practices.
Prerequisite(s): CP1890, CP1520, CP1290

CP3100 - MVC Framework Development •

This course will introduce the student to skills and concepts that are essential to develop and maintain a Model-View Controller MVC framework based web application. Upon completion of this course the student will be able to create powerful database-driven websites quickly in a scalable, re-usable, repeatable way.
Prerequisite(s): CP2420

CP3105 - WordPress •

WordPress is the most popular content management system in use on the web today. There are millions of webpages served by WordPress each day. WordPress allows sites to include web content like forums, media galleries, e-commerce stores and much more. Students will install WordPress, WordPress themes and WordPress plugins. Students will also create custom themes and custom plugin to add functionality to a WordPress site.
Prerequisite(s): CP1410, CP2426

CP3125 - Command Line and PowerShell
Interacting with the operating system without using a GUI requires the use of text commands in a shell environment; this is called a command line. Navigating the command line is an essential skill for the computing professional. In this course the student learns to interact with, configure and troubleshoot the operating system using command line processes and PowerShell. The student will learn by the "hands-on" application of the commands and procedures.

CP3130 - Content Management Systems •
Content Management Systems support the process of collecting and publishing content on the web. They also provide a platform for many "community" features, such as comments, discussion and chat. Students will learn a process for identifying content types and establishing a workflow for editing and approving content. Students will then configure a content management system to meet a client's needs.
Prerequisite(s): CP1410, CP2420

CP3150 - Interface Design and Analytics •
This course is an advanced study of Web site interface design. The student will learn best practices for designing a usable, visually-appealing Web site which has been optimized for both large and small screens. Emphasis is placed on adherence to Web standards and accessibility guidelines. Students will also learn how to effectively use Web analytics to refine the site design.
Prerequisite(s): CP1410

CP3155 - UI/UX Design •
This hands-on course enables the students to develop a strong foundational understanding of user interface (UI) and user experience (UX). Students will avail of user research and User-Centered Design (UCD) approaches and utilize them to design common user-interface elements in custom interactive functionalities. Students will also learn what UX is as well as the fundamentals of UX design and how to include in all digital products and services. Students will demonstrate successful practices in User-Centered Design (UCD) and use personas, user research and user stories. Discussion of issues surrounding usability on the Web including knowledge management and web strategies. Emphasis is placed on adherence to Web standards and accessibility guidelines and how to effectively use Web analytics to refine site design.
Prerequisite(s): CR1511, CP1580, CP1505

CP3160 - Multimedia Development •
This course introduces students to the basic concepts and techniques used in multimedia systems, media formats, communication of multimedia, and the publication of multimedia-filled websites. This course encourages students to be creative and original when developing their work. At the end of the course, students will have a professional portfolio of multimedia and a client website.

CP3370 - Software Development with ASP.NET •
This course introduces students to multi-tier web application development using ASP.NET. The focus is on developing web applications with distinct presentation, application and storage tiers through project-based course work. The course will build upon user interface and database development concepts learned in previous courses and how to add business logic to the application tier for large scale application development.
Prerequisite(s): CP2130 or CP1890

CP3415 - Fundamentals of Database Design
This course introduces concepts common to all database management systems in such a way that the student can function in a meaningful and knowledgeable manner in any data processing environment where database concepts are implemented. Additionally, current theoretical concepts are put into practice using current database architectures and technology.

CP3470 - IM Systems Analysis and Design •
The IM Systems Analysis and Design course presents an overview of the complete system development life cycle (SDLC) of IM related projects. It gives a fundamental overview of the effective analysis and design of business-related problems. It also concentrates on requirements definition, feasibility and design considerations utilizing the traditional SDLC methodology and methodology that is unique to IM.
Prerequisite(s): OP1390, CR1280

CP3490 - Software Engineering
The course introduces learners to the principles of software engineering, object oriented modeling and analysis of large software systems using unified modelling language (UML) and different phases of software life cycle: requirements, analysis, design, implementation and testing. Development of a significant software system is a crucial part of the course.
Prerequisite(s): CP2530

CP3510 - Relational Database Design •
This course introduces concepts common to all database management systems in such a way that the student can function in a meaningful and knowledgeable manner in any data processing environment where database concepts are implemented. The theoretical concepts are put into practice using current database architectures and technology.

CP3520 - Databases

The course introduces learners to the principles of database design and implementation as well as administration of database management systems. Discrete mathematics prerequisites are introduced as appropriate. Development of significant database system is a crucial part of the course.

Prerequisite(s): CP2530
Co-requisite(s): CP3490

CP3521 - Web Programming

The course is designed to give learners a thorough understanding of Web technologies. Topics include client-server architecture and protocols. Server side topics include JavaScript and PHP scripting languages, AJAX, Java servlets and security.

Prerequisite(s): CP3490; CP3520; CE1210

CP3540 - Applied ASD Project

This project course enables students to demonstrate the application of knowledge and skills developed throughout their program of studies. Students taking this course will work in teams on a project, under the supervision of a faculty supervisor, and will perform the following: 1) an in-depth analysis of a problem that requires a software solution developed, 2) a design and implementation of the problem solution and 3) presentation of their solution. The focus of this course is on presenting a clear concise solution with brief supporting documentation. This project can be one from industry or one assigned by the College. If it is an industry driven project, prior faculty approval must be provided to ensure it meets the scope, depth and focus required to meet the course outcomes.

Prerequisite(s): CP1945, CP2661, CP4265, CP1291

CP3565 - Applied Java Programming

This is the third course in the Java sequence. The student will learn techniques to manipulate databases using JDBC technology as well as create web components using the latest Java web frameworks. (such as Java Server Faces, Struts, GWT, Spring MVC or another stable framework). Students will demonstrate deploying web-based frameworks that are secure and stable and fully support API and web services.

Prerequisite(s): CP2561, CP4265

CP3810 - iPhone Application Development

This course introduces students to applications development for iOS devices and is structured around tools, frameworks and programming language(s). Topics include Model-View-Control paradigm, Objective-C, storyboards, constraints and layouts, outlets and actions, navigation controllers, segues, UIView, UITableView, UIScrollView, UIPageView, UICollectionView, UITabBar and UISegmented controllers, networking, telephony, maps and webview, persistent data, SQLite and Sprite kit.

Prerequisite(s): CT2530, CP3490
Co-requisite(s): CP3831

CP3831 - Computer Graphics Game Development

This course introduces students to computer graphics using OpenGL libraries and professional game engine to develop 2D/3D games.

Prerequisite(s): CT2530

CP4265 - SQL Programming

This course is intended to illustrate how to develop and program in a multi-user database environment. This course also illustrates how to create, populate, query, and manipulate databases in a relational environment using SQL. This course can be completed using a variety of platforms.

CP4281 - Programming for Mobile Devices

This course is designed to give students an introduction to building Android applications for mobile devices. It is designed for first-time mobile developers. A knowledge of the Java programming language is required for this course.

Prerequisite(s): CP2275

CP4305 - Orientation to the ASD Work Exposure

The work exposure is an integral part of the Accelerated Software Development program's curriculum. Work exposure opportunities are arranged by the Work Exposure Coordinator for the program but ultimately must be secured by students in competition with all applicants for the position. This course focuses on content that will assist students in finding a meaningful placement and prepare students for a career in IT by fine-tuning the skills cultivated throughout the program.

CP4470 - Emerging Trends in Industry

Through directed research, students will explore emerging trends in the digital animation field. The topics covered are selected from an information technology area that has not been fully explored in the student's program to date. The aim of this course is to complement or supplement previous training or to augment training in response to current trends or an unseen deficiency in student knowledge of specific topics.

CP4471 - Emerging Trends in Software

This course covers trends in software development that arise from the natural evolution of the field. Topics are selected with the aim of exposing the student to the new and/or evolving techniques and/or technologies used in software development.

Prerequisite(s): CP4265 or CP4411, CP2275 or CP2280, CP1945 or CP1950

CP4475 - Emerging Trends and Innovation •

Technology is constantly changing and evolving. This course explores trends and innovation that arise from the natural evolution of the field. Topics are selected with the aim of showing the student new and/or evolving techniques and/or innovations used in enterprise web development.

Sample topics of discussion and examination could include:
- Mobile Commerce
- Enterprise computing
- Social E-Commerce
- Collaborating and project management
- Leadership and technology
- Artificial intelligence
- Augmented reality
- Interactive product visualization
- Big data
- Analytics

Examples of assignments and projects could include:
- Case study on a new technology in an organization
- Industry needs analysis
- Implementation plan for new technologies
- Utilization of the new technology
- Industry technology presentation
- Industry driven project

Prerequisite(s): CP2030, CP1505, CP1292, CP1895, CP1501, CP3155, CM1401, MA1900, CR2800, CR1355, CP1580 and CP2075, CP2080 or CP2205, CP3105

CR1020 - Desktop Application Support

Desktop applications are the user's primary interface to information in a networked business environment. Information Technology support personnel are required to configure and support user applications to provide highly available and secure data access, manipulation and storage. This course provides support personnel with the skills to install and configure application software and support individuals in using the most common desktop applications deployed in a typical business environment.

CR1030 - Linux Server Administration

Linux runs everywhere; devices such as desktop computers, smartphones, routers, web servers, supercomputers, TVs, refrigerators, and tablets to name a few. This course deals with the use and administration of a Linux based system. Students will explore the various tools and techniques commonly used by Linux system administrators and end users to carry out their day-to-day work in a Linux environment. The course is designed for computer users who have limited or no previous exposure to Linux. Upon completion of this course students should have a good working knowledge of common Linux tools, from both a graphical and command line perspective, allowing them to easily navigate through any of the major Linux distributions.

CR1105 - Network Fundamentals

This course introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

CR1107 - Network Fundamentals

This course introduces the technology, configuration, and skills required to connect individuals, devices, and corporations in an efficient and secure manner to share information and ideas and collaborate on a regional and global scale. It will provide an overview of networking technologies using international connection standards and will introduce network numbering, protocols, security, and capacity planning.

CR1120 - Introduction to the Field of IT and Ethics

This course will provide the student with an information technology industry overview, information on both Occupational Health and Safety and the Workplace Hazardous Materials Information System (WHMIS) as well as an introduction to ethics and best practices in the Information Technology field.

CR1130 - Intro to the Field of SD

This course will allow the student to obtain basic college information, an information technology industry overview, and an introduction to ethics and best practices in the Information Technology field.

CR1260 - Client Service for the IT Industry
This course focuses on the role of an information technology employee in providing quality technical client service in any given situation. Students will develop the skills they need to interact effectively with clients, either face-to-face, on the telephone, in writing or on the web. Some of the topics covered will be Quality Client Service; Communicating with Clients; Handling Difficult Clients; Solving and Preventing Problems; Working as a Team; and Managing Stress and Burnout.

CR1280 - IM Computer Concepts •
This course is designed to expose the student to the fundamentals of computing/IT concepts, associated terminology, and emerging issues and technologies as they pertain to Information Management. The students are exposed to a full range of topics that focus on storage devices, peripheral devices, networks and the Internet, security, and file formats.

CR1350 - Computer and Network Technologies
This course provides the student an introduction to computer components and network technologies. Students will gain an understanding of computer systems and mobile device functional components, characteristics, performance and interactions in order to make the best use of tools and languages they use to create programs. Networking and cloud computing technologies and processes will be introduced so the learners are able to recognise the impact that distributed infrastructures have upon application development. Students will learn to document and research their computing requirements and be able to apply those skills in a software development environment to enhance performance, reliability and security.

CR1355 - OS and Network Technologies •
This course provides the student an introduction to operating systems and network technologies. Students will gain an understanding of Networking and cloud computing technologies and processes will be introduced so the learners are able to recognise the impact that distributed infrastructures have upon application development. Students are introduced to a broad range of operating system concepts that cover both Windows, Linux, and mobile environments. Students will learn to document and apply the skills in a software development environment to enhance performance, reliability and security.

CR1360 - IM Security •
This is an introductory course that will give the student a general understanding of the field of Information Security. Topics discussed will be taken from the domains defined by CompTIA, including General Security Concepts, Communication Security, Infrastructure Security, Basics of Cryptography and Operational and Organizational Security. In the labs students will be exposed to the techniques and tools that can be used to protect personal computers from attacks via the web.
Prerequisite(s): CR1280

CR1510 - Website Development •
After completing this course the student will be trained in the essential concepts of XHTML and JavaScript. The student will begin with developing a basic web page and move on to developing a basic website. Then the student will create web page forms, and work with cascading style sheets. Next, the student will work with JavaScript to create dynamic web pages and websites.

CR1511 - Website Development •
This course will introduce students to the key concepts of HTML and CSS. The student will begin creating basic web pages and move on to creating full websites. The student will then enhance web pages with more advanced layouts, embedded fonts, audio, video and responsive design. The student will use basic web design principles and create a website using the content management system WordPress.

CR1531 - Web Design II
Students will gain the skills necessary to modify and develop client-side websites. Students will focus on design issues as opposed to programming skills and will be introduced to intermediate programming in HTML and basic CSS and will learn how to develop sophisticated page layouts and images for websites.
Prerequisite(s): CR1530

CR1535 - Web Design I
Students will gain the skills necessary to design and develop a basic website, with an emphasis on design issues over programming skills. Students will be introduced to basic programming in HTML and will learn how to develop sophisticated page layouts and images for websites.

CR2130 - Enterprise Client Management
This course provides the student with the knowledge and skills to manage client and server systems using a centralized management suite to provide a stable and secure computing environment.
Prerequisite(s): CR1105, CP1332

CR2170 - Trends in Web Development •
This course covers trends in web development that arise from the natural evolution of the field. Topics are selected with the aim of exposing the student to the new and/or evolving techniques and/or technologies used in web development.
Prerequisite(s): Successful completion of all courses in Semesters 1-3 of the Web Development program

CR2231 - Microsoft Exchange Server
Since its inception as a text messaging service for locally-connected computers, email has evolved into a globally-connected information sharing and collaboration system. Understanding the interconnection between clients, servers, and other networked email systems is vital to maintaining business communications.

This course focuses on the planning, installation, configuration, and support of a Microsoft Exchange Mail Server. This would include mail concepts, server installation, client configuration, server management and configuration message of delivery in a multiple-site environment, troubleshooting, and security.
Prerequisite(s): CR1105; CP1465

CR2241 - Information Systems Security
Information systems have become mission-critical storehouses of information, and in many cases, the only storage medium for this information. These systems must be secured from accidental and intentional loss of data. This course introduces the concepts and configuration tasks required to create a secure network infrastructure.
Prerequisite(s): CR1107, CP1465, CR1030

CR2251 - Connecting Networks & VoIP
This course builds upon the student's understanding of Wide Area Networking (WAN) technologies and network services employed by converged applications in a complex network. By the end of this course, students will be able to configure and troubleshoot WAN technologies and devices and resolve common issues with data link protocols. The student will also be introduced to the Voice over Internet Protocol (VoIP) and associated hardware.
Prerequisite(s): CR2902

CR2252 - Intro to Amazon Web Services
Introduction to Amazon Web Services (AWS) is intended for students who seek an overall understanding of cloud computing concepts independent of specific technical roles. It provides a detailed technical overview of what the AWS cloud is, its basic global infrastructure and architectural principles. Students will explore core characteristics of deploying and operating in a cloud platform as well as basic security operations, compliance aspects and working with the shard security model.
Prerequisite(s): CR1107, CR1030, CP1465

CR2260 - Virtualization and Cloud Computing
Current business environments are more dependent than ever on highly-available, secure, scalable, and cost-effective platforms to support datacenter requirements. Virtualization and Cloud services maximize hardware cost effectiveness and are now part of every corporate datacenter and support personnel are required to provision these services on a daily basis.
This course provides the skills to install, configure and manage virtualization services and choose effective Cloud-based solutions to meet corporate data management requirements.
Prerequisite(s): CP1332; CR2511

CR2270 - CSN WT Orientation
Work terms are an integral part of the CSN program's curriculum. Work term opportunities are arranged by the Work Term Coordinator for the program, but must be secured by students in competition with all applicants for the position. This course focuses on fine-tuning the skills learned throughout their program of studies and aids them in finding a meaningful placement and becoming an asset to that organization.

CR2401 - Routing & Switching Essentials
This course builds upon the knowledge gained in CR1105, Network Fundamentals about IP-based communications. It describes the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. By the end of this course, students will be able to configure and troubleshoot routers and switches and resolve common issues with RIPv1, RIPng, single-area and multi-area OSPF, virtual LANs, and inter-VLAN routing in both IPv4 and IPv6 networks.
Prerequisite(s): CR1105

CR2402 - Switching, Routing & Wireless
Using the concepts learned in CR1107 – Network Fundamentals, this course provides the skills required to securely configure switches, routers, and wireless connection points to deliver fault-tolerant, scalable, and efficient connections to the network fabric. These skills will include, VLANs, Inter-VLAN Communication, Spanning Tree, Switch Security, EtherChannel, DHCP, FHRP, WLAN, and Static Routing.
Prerequisite(s): CR1107

CR2511 - Advanced Linux Server Administration
This is the second of two courses in Linux server administration and is intended for system administrators and users who already have at least some basic exposure to Linux. This hands on Linux administration course teaches students how to install, configure and maintain a Linux system in a networked environment. Students will not only learn to perform basic administrative tasks such as adding and managing users, creating and maintaining file systems, developing and implementing a security policy, and performing software installation and package management, but will also learn to perform Linux network-related tasks, including installing and supporting NFS, Samba, DNS, DHCP, mail, and the Apache Web server. Comprehensive hands on exercises are integrated throughout to reinforce learning and develop real competency.
Prerequisite(s): CR1030

CR2530 - Web Design III
Students will gain the skills necessary to work as part of a team and develop more advanced websites. Students will be working on more complex projects where the role of the designer is to work with clients, audiences and team members to develop more sophisticated design solutions.
Prerequisite(s): CR1531, GA1351

CR2800 - Security for Programmers •
This course will provide the student with a general understanding of the field of Information Security. Topics discussed include, but are not limited to, General Security Concepts, Secure Coding, Basics of Cryptography and Operational and Organizational Security.
Prerequisite(s): None
Co-requisite(s): CR1107 or CP1120 or CP1850 or CP1855

CR2902 - Scaling Networks
This course builds upon the student's understanding in Internet Protocol (IP)-based communications with the concept of growing an IP network. The student will be introduced to LAN redundancy, link aggregation, wireless LANs and advanced routing concepts.
Prerequisite(s): CR2401

CR2903 - Enterprise Network Security & Automation
Building upon the skillset obtained in CR2402, this course describes the architectures and considerations related to designing, securing, operating, and troubleshooting enterprise networks. The course covers wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access. Software-defined networking, virtualization, and automation concepts that support the digitalization of networks are introduced. Students will gain the skills required to configure and troubleshoot enterprise networks and learn to identify and protect against cybersecurity threats. They are introduced to network management tools and learn key concepts of software-defined networking, including controller-based architectures and how application programming interfaces (APIs) enable network automation.
Prerequisite(s): CR2402

CR2950 - Emerging Trends in IT Infrastructure
This course covers new trends in IT infrastructure that arise from the natural evolution of the field. Topics are selected with the aim of exposing the student to the new and/or evolving techniques and/or technologies used in the design and maintenance of the IT infrastructure.
Prerequisite(s): CP1927, CR3456, CR2241, CP1332, CR2903, CR2511

CR2970 - Capstone Project
The Computer Support and Networking program provides the student with a broad knowledge base in the design, implementation and support of modern computer network infrastructures. The Capstone Project is a culminating, performance-based assessment that incorporates major disciplines of the program and focuses on critical thinking, problem solving, teamwork, research skills, oral communication and literacy.

Working in a team and under the supervision of a faculty member the student will perform an in-depth analysis of a given computer systems infrastructure and develop a design or re-design plan that meets the goals identified in the analysis. The student will develop a document that incorporates a complete network design configuration and present his/her findings.

Projects will be selected in consultation with a faculty member and may include an industry partner.
Prerequisite(s): CP2730, CP1332, CR2903, CP1927, CR2511, CR2241, CR3456

CR2980 - Capstone Project
The capstone project course enables students to demonstrate the application of knowledge and skills developed throughout their program of studies. Students taking this course will work in teams on a project, under the supervision of a faculty supervisor, and will perform the following: 1) an in-depth analysis of a problem that requires a software solution developed, 2) a design and implementation of the problem solution and 3) full documentation and presentation of their solution. This project can be one from industry or one assigned by the College. If it is an industry driven project, prior faculty approval must be provided to ensure it meets the scope, depth and focus required to meet the course outcomes.
Prerequisite(s): CP1945, CP2845, CP2275, CP4265, CP1210, CP1520, CM2200

CR3456 - Scripting with Bash
System configuration and maintenance is a primary responsibility for support personnel. Many of the required tasks are repetitive and can be time consuming and error-prone. Scripting provides support personnel with the tools to automate processes; saving time and reducing configuration errors. This course provides the requisite skills to create and maintain complex scripts to manage computer systems using the Linux Bourne Again SHell (BASH).
Prerequisite(s): CP3125, CR1030

CR3540 - Capstone Project •
The capstone project course enables students to demonstrate the application of knowledge and skills developed throughout their program of studies. Students taking this course will work in teams on an IM project, under the supervision of a faculty supervisor, and will perform the following: (1) an in-depth analysis of a business case that deals with an information management issue in an organization; (2) the creation and presentation of an analysis document; (3) the creation and presentation of a project plan; (4) the creation and presentation of a design document; (5) a presentation of their solution.
Prerequisite(s): CP3470, OP1600, OP1320, CP2410, PR2700, OP1401, EP2130, CM1370

CS2311 - Research Methods and Statistics
This is an introductory course intended to cover general research reading and writing found in published research along with an introduction to the basic principles of quantitative statistics commonly encountered in the health care environment. The overall intent is to help students find and begin to understand health research literature, begin to perform and interpret descriptive statistics, and develop confidence in the interpretation of quantitative research. The course has two main goals: to help students make sense of the research they can be expected to encounter in their professional practice, and to develop a deeper understanding of the commonly encountered descriptive statistics within the clinical environment.

CS2340 - Introduction to Social Research
This course provides students with an introduction to social research. Students explore the meaning, value, ethics, and steps of social research. Various types of social research are reviewed and students actively partake in the research process through the completion of a research project.

CS2500 - Project Management
This course focuses on planning projects and on acquiring and utilizing the resources necessary to complete these projects. Students use project management and budgeting software to apply planning and management principles to a particular project.

CS2630 - Wilderness Survival
This course is designed to teach the student the necessary skills required to travel and survive in a wilderness setting. It includes practical and theoretical information on wilderness survival basics, trip planning and management, emergency survival skills and wilderness hazards. Students will successfully complete a 3-day field practical simulating a wilderness emergency scenario.
Prerequisite(s): SU1150, Standard First Aid

CT2300 - Applied Programming
This is a course designed to introduce the technology learner to the concepts of problem solving using computer programming. The course will be taught using a high level language such as C or C++. Learners will write programs to solve problems within their related disciplines and will learn the concepts of troubleshooting and problem solving. The course covers the following areas: structured programming concepts, data types, decision statements, loop and iteration procedures, Input/Output procedures, and files.
Prerequisite(s): MA1101 or CE1140

CT2530 - POSIX Operating Systems
The course introduces learners to the fundamentals of operating systems including process, memory, I/O management, file system and virtualization. Examples will be taken from UNIX. C programming language is overviewed as well as shell scripts.
Prerequisite(s): CP1340
Co-requisite(s): CE1210

CY1010 - Intro to Mental Health Issues
This course introduces students to the various aspects of mental health and encourages steps that can be taken to promote and maintain positive mental health. It explores what mental illness has meant across time and cultures, examines the major groups of mental illnesses, and gives learners a chance to understand what their perceptions of mental illness are by addressing the concept of stigma.

CY1011 - Intro to Child & Youth Care
This course is an introductory course to the field of child and youth care. Students will explore the professional tasks of a child and youth care practitioner and the challenges as well as the rewards of being a member of this profession. An overview of the needs of children and youth, the types of agencies providing service, governing legislation, professional roles, and future trends and issues will be studied.

CY1041 - Mental Health & Addictions
Students will be introduced to adolescent development and other risk and protective factors associated with substance and mental health problems in youth. They will learn to identify substance use, mental health issues and concurrent disorders in youth and to apply appropriate treatment approaches effective for youth with substance and mental health problems.
Prerequisite(s): PS1140, PS1145, LD2220

DB2100 - Intro to Disability Studies
This course is designed to provide students with an overview of the history of disability, as well as an understanding of current human rights legislation, which provides a context and a value base for students to explore the field and refine a personal value system. The course also provides a general understanding of various types of disabilities, and allows students to explore the types of support that may be needed by individuals and families, as well as the various roles they may choose to take in order to facilitate inclusion and citizenship of persons with disabilities.

DB2110 - Disability Studies
This course explores many of the issues and challenges which are faced by persons with disabilities and their families as they attempt to participate in their communities as equal citizens. Students will analyze the issues, explore alternatives, and develop a vision of the changes needed for full participation. Furthermore, students will examine strategies which can be used in building inclusive communities.
Prerequisite(s): DB2100

DE1110 - Applied Research
The course is designed to provide a good understanding of a model for definition, analysis, and solution of technical problems; and to develop the student's ability to (i) apply diverse methods and strategies in project analysis, (ii) prepare and deliver effective oral technical presentations, and (iii) define and plan a major applied research project.
Prerequisite(s): CM1400, CM1401

DE1200 - Operations Research
This introductory course is designed to provide basic understanding of certain concepts of operations research and the role that these analyses play in decision making.
Prerequisite(s): MA1101

DE2350 - Project Management
This is an introductory course that provides the student with a basic foundation in the concepts, tools and techniques of formal project management.
Prerequisite(s): CG1500

DE3110 - Project Controls
This course analyzes the principles of Project Controls by bringing together all of its major components. It covers the control of projects from project conception to commission. Specifically, it incorporates cost engineering, total cost management, cost estimating, planning and scheduling, and cost control. This course is intended to demonstrate how good cost controls afford a company influence over cash flows and profits.
Prerequisite(s): DE2350

DE3300 - Information Systems Design
This course covers the application of computer information systems to industrial engineering problems, with particular emphasis on computer network resource management, database management and application software.

DE3430 - Computer Integrated Manufacturing
This is an advanced course for students having some background in technology. Graduating students will possess a good understanding of computer hardware integration, automation, and PLC (programmable logic control) as well as the necessary technical expertise to be able to meet the current needs of the industry.
Prerequisite(s): EG1430; FM3100; CI1240

DE3505 - Decision Making in Engineering
This course covers the role of decision making in engineering as an integral part of the broader topic of project management. This course is an extension of earlier courses where skills in information management are introduced. The lectures cover some theories and tools used in decision making while assignments and a project will be used to apply these tools in practice.

DM1200 - Document Production I •
This course includes keyboarding, file management and basic document formatting. Keyboarding speed on unseen straight copy material is developed using three (3) minute timings. Students will use word processing software to produce the following documents: notices, announcements, signage, basic correspondence, basic tables, and basic reports. Students will also use presentation software to prepare basic presentations.

DM1210 - Document Production II •
This course develops keyboarding speed and accuracy. Keyboarding speed on straight copy material is developed using five (5) minute timings. This course further develops proficiency in document production using intermediate word processing applications and presentation applications. Students will also apply skills in the production of intermediate business correspondence, tables, forms, reports, and presentations, and reinforce their skills in file management.
Prerequisite(s): DM1200

DM1300 - Transcription •
This course introduces skills in machine transcription and/or using transcription software and reinforces grammar and punctuation skills. Emphasis is placed on applying proofreading and language skills: grammar, punctuation, and spelling. Decision-making skills are introduced through the transcription of basic business documents.
Prerequisite(s): DM1200, CM1100

DM1301 - Transcription II •
This course is designed to further develop skills in machine transcription and/or using transcription software. Emphasis is placed on accuracy and speed as well as grammar, punctuation and spelling competency. Documents will be transcribed from various business environments. Decision-making skills are improved in the transcription of complex unarranged material.
Prerequisite(s): DM1300, DM1210

DM1310 - Legal Transcription I
This course helps students increase their competency in machine transcription and/or using transcription software. Emphasis is placed on accuracy and speed of transcription as well as on grammar, punctuation, and word usage competency. Decision-making skills are enhanced through the transcription of legal documents for general legal procedures, civil litigation and incorporation.
Prerequisite(s): DM1300
Co-requisite(s): DM2210, OF2500

DM1400 - Medical Transcription I •
This course introduces the student to the use of transcription and word processing software to prepare accurate medical reports. Focus is placed on the correct use of medical vocabulary to edit for clarity, conciseness, and accuracy while applying industry standards in health documentation. Development of a personal reference library will enable the student to apply advanced decision making skills.
Prerequisite(s): DM1300, DM1210
Co-requisite(s): TM1100

DM1401 - Medical Transcription II •
This course further develops the ability of students to transcribe with accuracy and speed medical correspondence and more specialized reports for various medical specialties. Transcription drills will be used to enhance proficiency in medical transcription with speed and accuracy.
Prerequisite(s): DM1400 and TM1100
Co-requisite(s): TM2100

DM1405 - Medical Transcription II •
This course further develops the ability of students to transcribe medical documentation, correspondence, and specialized reports accurately and efficiently for a variety of medical specialties. Transcription drills will be used to enhance proficiency in medical transcription with speed and accuracy.
Prerequisite(s): DM1400, TM1100
Co-requisite(s): TM2100

DM2200 - Document Production III •
This course combines keyboarding development, document production, word processing, and presentation software to improve proficiency in document production. Keyboarding speed on unseen straight copy material is developed using five minutes timings. Students will reinforce their skills in the production of advanced business correspondence, tables, reports, specialized business documents, and presentations. Students will conduct internet research to produce professional style reports.
Prerequisite(s): DM1210

DM2210 - Legal Document Production I
This course combines keyboarding development, word processing concepts, and legal document processing for general legal procedures, civil litigation, and incorporation. Keyboarding speed on unseen straight copy material is developed using five minutes timings.

This course is designed to teach students the setup and function of various legal and non-legal documents including correspondence, reports, memoranda, accounts, contracts, court documents, and corporate papers. These documents will be produced with speed and efficiency using state-of-the-art equipment and software to create a precedent file from which students will merge text from the keyboard. In addition, word processing concepts introduced in DM1210 – Document Production II will be further enhanced.
Prerequisite(s): DM1210
Co-requisite(s): OF2500

DM2240 - Document Production IV •
This course combines keyboarding development and document formatting using a project/simulation approach. Keyboarding speed is developed using five (5) minute timings. Students will be expected to develop and use critical thinking and decision-making skills, and to process and produce documents at an advanced level using Microsoft Office. Students will also perform tasks that require the integration of various software packages i.e. word processing, spreadsheets, presentations, electronic mail and calendar.
Prerequisite(s): DM2200, CP2310

DM2420 - Legal Transcription II
This course continues to increase competency in machine transcription and/or using transcription software. Emphasis is placed on accuracy and speed of transcription of business correspondence and legal documents. Throughout dictation of the material, the dictator makes editing decisions, phones may ring, and other interruptions may occur. Decision-making skills are further refined through transcription of legal documents for real estate, wills and estates, and family law.
Prerequisite(s): DM1310
Co-requisite(s): DM3250, OF2530

DM3250 - Legal Document Production II
This course builds on DM2210 – Legal Document Production I and incorporates many of the basic legal formats learned. The course will introduce students to documents required by a legal practice when handling real estate transactions for both the vendor and the purchaser and will further develop word processing and legal document production skills for wills, estates and family law. Students will produce correspondence, legal documents, and legal precedents required in real estate, wills and estates law, and family law. Using a case approach, students will follow and interpret instructions and produce documents while using check lists to assess priorities and manage time. The students will further develop a precedent file using state-of-the-art equipment and software. Keyboarding speed is developed using five (5) minute timings.
Prerequisite(s): DM2210
Co-requisite(s): OF2530

DP1110 - Digital Systems I (Logic)
This course introduces learners to the field of digital electronics. They will be taught design and diagnosis techniques applicable to digital electronics.
Prerequisite(s): ET1101 or ET1140

DP1310 - Introduction to Programmable Logic Controllers
This is an introductory course in programmable logic controllers (PLC) covering the fundamental concepts of digital, numbering systems, logic, gates, circuits, simplification, arithmetic elements, latches, flip-flops, counters, the components in a typical PLC system, configuring, addressing and programming. The laboratory component will develop understanding and skills related to circuit construction & operation and ladder logic programming & troubleshooting.
Prerequisite(s): ET1101

DP1840 - Motors Generators and Starting Systems (M, E)
The M and E course will give the student an overview of the principles of all AC and DC motors. The student will be able to differentiate between AC/DC motors. AC/DC generators and alternator theory will also be covered, including construction and maintenance of engine starters (electrical). The inspection and servicing procedures for the starting systems will be covered in this course.
Prerequisite(s): PE1140

DP2110 - Digital Systems II (Interfacing)
This course provides the student with knowledge of the hardware and software associated with digital systems and interfacing requirements for communication from a PC to external environments. Advanced FPGA technologies will be used to interface hardware devices. Interfacing using pneumatics will be used to expand the knowledge of interfacing from electronics to mechatronics.
Prerequisite(s): DP1110, CT2300 or CP1270

DP2120 - Digital Systems II (Interfacing)
This course provides the student with knowledge of the hardware and software associated with digital systems and interfacing requirements for communication from a PC to external environments. Advanced FPGA technologies will be used to interface hardware devices. Interfacing using pneumatics will be used to expand the knowledge of interfacing from electronics to mechatronics.
Prerequisite(s): DP1110, CT2300 or CP1270

DP2435 - Digital Systems II
This course provides the student with knowledge of the hardware associated with digital systems and interfacing requirements for communication from a PC to external environments. Interfacing to pneumatic systems will also be introduced.
Prerequisite(s): DP1110, AE1265

DP2540 - Advanced Programmable Logic Controllers

This is an advanced course in programmable logic controllers (PLC) covering timers, counters, data manipulation, comparison, conversion, arithmetic instructions, word logic instructions, shift registers, rotate registers, sequencers, analog inputs and outputs, communications protocols and an introduction to human machine interface concepts. The laboratory component will further develop and strengthen the understanding and skills related to circuit construction & operation and ladder logic programming & troubleshooting.
Prerequisite(s): DP1310

DP3110 - PLC

This course introduces the learner to the general concepts and programming techniques for digital, analog and peer to peer communications associated with programmable logic controllers (PLC) used in the instrumentation applications.
Prerequisite(s): DP1110, CI1360
Co-requisite(s): CE2810

DP3200 - Embedded Controller Applications

The course will reveal why microcontrollers exist in so many products today. It explains the basics in microcontroller design through actual applications and will describe the differences between microcontrollers and microprocessors. Instruction is given in different techniques for making the best use of the microcontrollers' resources. Hands-on experience is provided in the lab environment.
Prerequisite(s): CT2300 or CP1250 or CP1270, DP2410 or DP2110 or DP2120

DR1220 - Engineering Drawing

Through participation in this course, learners will acquire drafting and design skills that will enable them to design a basic wood-frame structure to the requirements of the National Building Code, Part 9. Learners will acquire the ability to sketch floor plans, main sections, and elevations. Furthermore, learners will be expected to produce a partial set of working drawings of a wood-frame construction (residential) structure using AutoCAD.
Prerequisite(s): EG1110, EG1430

DR1240 - CADD Drawings

Through participation in this course, learners will acquire computer drafting skills that will enable them to lay out a variety of engineering drawings (mechanical, civil, and architectural) to industry standards. Specifically, learners will acquire the ability to draw floor plans, sections, details, and elevations, as well as some basic mechanical and structural working drawings.
Prerequisite(s): DR1220

DR1250 - CADD Drawings

This course is a continuation of the DR1220 course and will build upon the skills learned in the DR1220 course. Through participation through this course, learners will acquire skills in the use of Revit and Civil 3D by producing working drawings   for small commercial building and site development. This will be accomplished through expanding on topics covered in DR1220 and covering topics specific to structural steel and concrete structures, as well as site plans and parcel development.
Prerequisite(s): DR1220

DR1400 - Wood Frame Construction

This course is an introduction to wood frame practices and materials with emphasis on foundation, floor, wall and roof construction of residential buildings.
Prerequisite(s): EG1430

DR1770 - Basic Drawing and Sketching for NDT

This course provides an introduction to orthographic projections sketching, sectional and primary views. It also introduces the techniques of plan reading and drawing. This course provides training for a NDT Technician Certification. This includes both in class practical training.

DR2150 - Architectural Drawings

This course is an introduction to Architectural Drawing conventions and applications which focuses on the rationale used in producing the technical drawings needed for conventional wood-frame construction. Emphasis is placed on general drawings such as floor plans and elevations in this course.
Prerequisite(s): EG1430
Co-requisite(s): DR1400

DR2320 - Engineering Graphics for Electrical

This course follows the Engineering Graphics course completed in the first year of Engineering Technology. It covers the more advanced commands used in the AutoCAD drafting package, with application examples from across the electrical engineering technology curriculum that require the use of AutoCAD.
Prerequisite(s): EG1430

DR2350 - Engineering Graphics for Instrumentation
This course follows the Engineering Graphics course completed in the first year of Engineering Technology. It covers the more advanced commands used in the AutoCAD drafting package, with application examples from across the Instrumentation and Controls Engineering Technology curriculum that require the use of AutoCAD.
Prerequisite(s): EG1430

DR3110 - Working Drawings I
This course is an introduction to building construction techniques, architectural working drawings and detailing. It is designed to enable the learner to become involved in the creation and proper use of working drawings. Course material takes the form of lectures, projects, and analysis of such projects.
Prerequisite(s): EG1240, DR2150
Co-requisite(s): BU2300, BU2410

DR3111 - Working Drawings II
This is a course dealing with larger buildings of masonry construction. It is designed to enable the student to become a functional part of a group involved in the creation and proper use of working drawings. Course material takes the form of lectures, group projects, and group analysis of such projects.
Prerequisite(s): DR3110, BU2300, BU2410
Co-requisite(s): BU2301, BU2411

DR3310 - CAD/CAM
This is an introductory course in manufacturing technology. In this course, learners are introduced to fundamentals of computer-aided design and manufacturing (CAD/CAM). Emphasis is placed on theory and practice in the metal fabrication industry through computerized numerical control (CNC) shape cutting.
Prerequisite(s): EG1310, WD1450

DR3720 - Tool Design I
This course is an introduction to tool design and tool making practices. It will provide the student with the basic knowledge required to design simple types of tooling required within the Manufacturing industry.
Prerequisite(s): CF1120
Co-requisite(s): EG2130

DR3721 - Tool Design II
The continuation of DR3720 Tool Design I, this course will expand on tool designing methods used in the sheet metal and plastic industries. The course will allow students to create tool design drawings for sheet metal and plastic components. Hands-on lab application will use a Vacuum Former, Injection Molder and Rapid Prototyper.
Prerequisite(s): DR3720, EG2130

DR3810 - Advanced Processes
This is an advanced course using equipment available at the Manufacturing Technology Centre. The course uses the Project Engineering approach to manage all aspects of the production run for a assembled component. Production planning, production scheduling, Machine allocation, Documentation control and Quality Control are used to deliver a hands-on, project-based team approach to emulate working environment similar to industry.
Prerequisite(s): SP1731
Co-requisite(s): DR3720

DR4111 - Working Drawings IV
This is the fourth in a series of working drawing courses. The course uses the same building as in Working Drawings III. Students are required to solve technical problems based on theory and knowledge gained in other courses. This course focuses on details of technical design problems not incorporated in previous working drawing courses.
Prerequisite(s): DR4120

DR4120 - Working Drawings III
This is the third course in a series of working drawing courses. The focus is on larger structures with a variety of building envelopes including glass and metal curtain walls and composite metal panel systems. Students are required to solve technical problems based on theory and knowledge gained in other courses. More emphasis is placed on details than in other courses.
Prerequisite(s): DR3111, BU2301, BU2411, EG2250

EC1110 - Microeconomics •
The course objectives are to develop an understanding of the economic institutions and environment under a market system of exchange and the response made to decisions arrived at by individuals, businesses, and governments. Specifically, the course examines business organizations and why the attitudes of buyers and sellers determine the prices, quantities, and distribution of the output of goods and services.

EC1120 - Understanding the Economy

Students learn how the provincial, national and global economies function and how they are connected. Once they have completed this course, students will be able to explain major economic theories and how they affect fiscal and monetary policies – and how, in turn, these policies affect individuals, households, businesses and communities. They will be able to relate a solid base of economic knowledge to current economic affairs.

EC1140 - Microeconomics

This is a course in Microeconomics that is intended to prepare the student to take additional courses in economics which make use of Microeconomics tools of analysis. In addition, the subject matter of this course will help in understanding some of the concepts, problems, and arguments that are presented in other courses or in the public press. When new projects or changes are announced by the government or private sector, you will have a set of tools of analysis that will allow you to be more informed as to what is involved in the decision making process; your tool kit will allow you to see some implications that may not be readily apparent to the general public. This will place you in a better position to ask relevant questions, whether you like or dislike the initiative. The course will cover the following topics: Scarcity and Opportunity Cost, Demand and Supply, Elasticity, Household Demand, Marginal Utility, Indifference Curves, Production Functions, Short-Run and Long-Run Cost Functions, Perfect competition in the short-run and in the long-run monopoly.
Prerequisite(s): Preferably High School Level III Academic Mathematics or Advanced Mathematics and acceptable score on Mathematics Placement Test or MUN Mathematics 1090.

EC1150 - Introduction to Macroeconomics

This course is designed to introduce students to macroeconomics. Topics that will be covered include national income accounting, aggregate income analysis, money, banking and foreign trade. The course examines the physical and monetary aspects of international trade, money, banking and monetary policy; the gross national product, national expenditure components, business cycles and fiscal policy. The emphasis is on Canadian examples where possible. Transferable to MUN Economics 2020.
Prerequisite(s): High School Level III Academic Mathematics or Advanced Mathematics and acceptable score on Mathematics Placement Test or MUN Mathematics 1090.

EC1210 - Macroeconomics •

This course is designed to introduce students to the principles of macroeconomics, including the physical and monetary aspects of international trade; money, banking, and monetary policy; the gross national product, national expenditure components, business cycles, and fiscal policy. The emphasis is on a problem solving approach and Canadian examples where this is possible.

EC1700 - Economics

This course covers the basic principles of engineering economy with application to engineering economic decision making. The various methods for economic analysis of alternatives are investigated as well as depreciation methods and income tax consequences.
Prerequisite(s): MA1101

EC1750 - Construction Economics

This course will give the learner the knowledge necessary to make decisions based on economic alternatives. It will introduce the learner to the fundamentals of cash flow equivalences and methods of comparison for different alternatives. It will take into account depreciation and the effect of inflation on the evaluation of alternatives. The learner will also be able to compare public sector projects based on benefit-cost analysis.
Prerequisite(s): MA1101

EE1180 - Curriculum I

This course offers an in-depth exploration of play as an integral component of quality early learning and child care programs. Students will learn about the theory, function and value of play. There will be an emphasis on developing and refining basic skills that help the adult engage in quality play experiences with children. Students will explore play with sand, water, blocks, and manipulatives. Students will also be introduced to the management of time, routines and transitions to ensure quality play experiences for children.

EE1181 - Curriculum II •

The student will develop knowledge of the major theoretical models and approaches currently being used in early learning and child care curriculum. In accordance with provincial standards, the students will develop a working knowledge of the emergent curriculum approach. Students will learn to develop and maintain a developmentally appropriate learning environment as the basis of the emergent curriculum. The student will develop basic skills in the planning, facilitation, documentation and reflection of experiences within an emergent curriculum. A child-centred, active learning approach to curriculum is emphasised. Throughout this course the unique learning styles, individual differences and interests among children will be emphasized and used as a basis for individualizing the curriculum.
Prerequisite(s): EE1180

EE1290 - Positive Behaviour Guidance •

This course provides a foundation for understanding and guiding children's behaviour. Students will learn the principles of guidance and strategies needed to guide behaviour in positive ways. The focus will be on understanding behaviour and implementing techniques that foster positive relationships and self-esteem, and create opportunities for learning.

EE1340 - Child Development I •
This is an introductory course in child development. Students will learn terminology related to child development as a foundation for advanced exploration of developmental stages in childhood. Students will also explore the basic principles of child development and learning. An introduction to the concept of child observation is provided as a foundational concept for the study and practice of early childhood education.

EE1341 - Child Development II •
This is a course in child development that focuses on increasing students' understanding of developmental milestones and growth patterns in toddlerhood and early childhood (2 to 6 years of age).
Prerequisite(s): EE1340

EE1360 - Observation •
The early childhood education student must be committed to the goal of supporting and enhancing children's development. Becoming a skilled observer is a reliable way to collect valid information about each child's skills, abilities, and their interests and needs. Students will develop knowledge and skills to purposefully observe, record, and interpret child behaviour. Through practical application of a variety of methods to gather observational data, the student's knowledge of children's development, interests, and needs will be enhanced. Students will be able to select appropriate observation methods, interpret and analyze their findings, and apply this knowledge to planning a developmentally appropriate program.
Prerequisite(s): EE1340

EE1420 - Creative Experiences I •
This introductory course will provide students with a foundation for creating early learning and child care curriculum. Students will learn about developmentally appropriate experiences in creativity, art, literature and dramatic play. Using a hands-on, participatory approach, students will be provided with opportunities to explore and experiment with related mediums and materials. Students will cultivate a personal sense of wonder and inquiry. The goal is for the student to develop practical play skills that can be applied throughout the early learning environment.

EE1421 - Creative Experiences II •
This introductory course will provide students with a foundation for creating early learning and child care curriculum. Students will learn about developmentally appropriate experiences in music, movement, outdoor play, science, and numeracy. Using a hands-on, participatory approach, students will be provided with opportunities to explore and experiment with music, movement, nature, science, and numeracy. Students will cultivate a personal sense of wonder and inquiry. The goal is for the student to develop practical play skills that can be applied throughout the early learning environment.

EE1440 - Family Studies I •
This introductory course in family studies provides students with a basic understanding of the modern Canadian family as a foundation for learning about partnerships between parents and early childhood educators. It stresses the significance of positive relationships. Students will become familiar with strategies that promote parent-educator partnerships and communication to create and maintain family-centered and culturally sensitive early childhood education.

EE1441 - Family Studies II •
Effective responses to families' needs require an understanding of the demands and stresses on families. Students will learn about a number of family stressors, methods families use to cope, and supports that may be provided for children and families.
Prerequisite(s): EE1440

EE1480 - Inclusion I •
This is an introductory course on the philosophy, principles, and appropriate practices of inclusion in early childhood programs. Students will learn about the characteristics of inclusive environments, the roles of those involved, and the use of Individual Support Service Plans.
Prerequisite(s): EE1360, EE1340

EE1481 - Inclusion II •
This course will discuss variations in developmental ability as a foundation for developing and implementing strategies for supporting all children in an inclusive early learning environment. Students will have an opportunity to learn about atypical or delayed cognitive, speech/language, physical/motor, sensory, and social/emotional development as well as health impairments. The causes, red flags and developmental impact of developmental deviations will be explored. There is a focus on identifying strategies that the early childhood educator can use to create developmentally appropriate learning environments, activities and materials.
Prerequisite(s): EE1480, EE1181, EE1341

EE1870 - Community Resources •
Strong connections with the community are essential to quality early learning and child care programs. Students will reflect on the importance of community to the health and wellbeing of children and their families. The concept of empowering families to utilize community supports is introduced. Students will identify a broad range of community resources, with opportunities for in-depth examination of specific community resources such as health care professionals, family resource centres, and non-profit organizations. Students will develop the competencies necessary to utilize these resources to support their work as early childhood educators.

EE2180 - Curriculum III •

This advanced curriculum course provides students with the opportunity to participate in an in-depth exploration of approaches to curriculum. Students will be able to explain the primary theories related to development and learning, as well as advanced curriculum models. Students will have an opportunity to relate this knowledge to advanced planning, facilitation and documentation strategies, including webbing, the Project Approach, and learning stories.
Prerequisite(s): EE1181

EE2255 - Advanced Behaviour Guidance

This course offers a more in-depth exploration of guidance theory and its application to the study of children with emotional and behavioural challenges. Students will learn about possible causes and resulting challenges for children. Students will develop practical skills in the prevention and management of challenging behaviour in a team approach. The goal is to develop the skills and an inventory of resources so that educators are able to effectively support children with behavioural challenges.
Prerequisite(s): EE1290; EE1360

EE2260 - Introduction to Child Care Administration •

This is an introductory course in early childhood education program administration. The aim of this course is to provide an overview of administrative principles and procedures needed to successfully operate high quality, inclusive early childhood education programs. Knowledge of provincial legislation and regulations, and factors which contribute to quality provide the foundation for developing practical skills related to governance, development and evaluation of quality programs, financial and staff management, menu planning, and working in partnership with parents and the community.
Prerequisite(s): EE2180

EE2340 - Child Development III •

This is an advanced course in child development. Students will examine primary theories related to child development and learning as a foundation for advanced curriculum planning. Students will have an opportunity to examine the sequential progression of primary developmental skills from birth to age 12 years. The focus is on developing a working knowledge of the theories, principles, and stages of child development for application in early learning and child care curriculum.
Prerequisite(s): EE1341

EE2350 - Professional Practice •

This course bridges the student to the profession of Early Childhood Education. Students will examine the roots of the early childhood education field as a basis for the study of the current state of early childhood education in Newfoundland and Labrador, Canada and internationally. Students will develop a strong sense of professionalism as an early childhood educator. The goal is to enhance the student's capacity to envision and advocate for advances in the sector as an early childhood educator.

EE2470 - Infant Development & Care •

This is an introductory course in infant care. It focuses on the unique needs of infants and how these needs can be met through a developmentally appropriate approach to programming and responsive care during the first two years of life. This approach takes into consideration the developmental needs and individual and cultural differences among infants, as well as the critical role of the infant-educator relationship. Particular attention is paid to the various roles of the educator in the design, planning, implementation, and evaluation of a developmentally appropriate physical, social-emotional, and cognitive environment for infants. The importance of establishing positive relationships and open communication patterns with parents will be highlighted in the course.
Prerequisite(s): EE2340, EE1360

EE2500 - School-Age Development & Care •

This is an introductory course in school-age care. Students will develop knowledge and skills for working with children ages five through twelve. The course focuses on the unique needs of school-age children and how these needs are met through a developmentally appropriate approach to programming. Students learn about child development patterns and milestones in middle childhood and early adolescence as a foundation for understanding the principles of inclusive school-age care. Particular attention is paid to the various roles of the early childhood educator in the design, planning, implementation, and evaluation of developmentally appropriate physical, social-emotional, and cognitive environments for school-age children.
Prerequisite(s): EE1341, EE1181

EE3010 - Leadership •

This course explores team building and leadership within the field of early childhood education (ECE). Students will gain a thorough understanding of the responsibilities of the administrator in addition to skills that are necessary to lead in early learning and child care environments.

EE3015 - Relationship Building •

In this course, students will discuss strategies to build trusting relationships by engaging family, culture, traditions and community into the program. In addition, ethical approaches in the workplace will be addressed.

EE3020 - Culture & Diversity •

Students enrolled in this course will develop an in-depth understanding and respect for culture, diversity, and inclusion. Throughout this course, students will gain knowledge, skills, and tools that will support them in promoting and supporting culture, diversity, and inclusive practices within child care environments. The knowledge, skills, and tools presented in this course will assist early childhood educators create a more inclusive and respectful environment for children, families, and employees. In addition, issues such as access, equality, and social justice will be explored.

EE3025 - Mentoring in ECE •

Mentorship within the field of early childhood education is defined as a reciprocal, relationship-based and process-oriented professional learning experience between two individuals. The purpose of the relationship is to learn and improve professional practice through reflection, self-directed learning and collaboration. This course will explore aspects of mentorship with a particular emphasis on provincial legislation, early childhood learning framework, and curriculum design and implementation.

EE3030 - Governance in ECE •

Governance in early childhood education is the establishment of policies and continuous monitoring of their proper implementation by the licensee, administrator, and/or board of directors. In this course, students will explore the role of government, social policies relating to child care, program organization, and the role of licensee and administrator as they relate to accountability, decision making, risk management, and supervision.

EE3035 - Financial Management in ECE •

This course provides students with an overview of the financial responsibilities of an administrator in early child care environments. Combining theory with hands-on learning, students will learn about the importance of financial management, and will have the opportunity to work on financial management tasks such as budgeting, record keeping, and payroll.

EE3040 - Human Resources in ECE •

Human resource management in the early childhood education field includes hiring and mentoring early childhood educators so that they become more valuable to the organization. This course explores many aspects of human resource management, including recruitment, employee selection, facilitation, professional development, retention, and performance appraisals.

EE3045 - Conflict Resolution •

The goal of this course is to provide administrators with practical conflict resolution skills. Students will learn techniques and strategies that will help resolve conflict. Understanding and utilizing these techniques and strategies will help administrators manage types of conflict in the early learning environment.

EE3050 - Current & Emerging Trends •

In this course, students will examine current and emerging trends affecting young children, families, and the profession. Students will explore professionalization, emerging curriculum trends, the use and effects of technology in the field, programming, shifting demographics, government initiatives, and the benefits and challenges of assessment.

EE3055 - Reflective Practice in ECE •

This course is intended for students to reflect on previous learning and explore opportunities for further studies. Students will select and complete an independent learning project on a relevant topic of interest. Examples could include (but are not limited to) the development of a portfolio, addressing a gap that currently exists in the early childhood education workplace, or in-depth research of a topic covered in a previous course. It is highly recommended that students complete this course at the end of the program.

EG1110 - Engineering Graphics

This course focuses on basic engineering graphics principles and standards to effectively communicate technical graphical design and also provides the foundation for more advanced engineering graphics concepts.

Engineering graphics is the predominant means by which accurate information is communicated within industries pertinent to all engineering technology disciplines. From the simplest in-the-field sketch, to the most advanced 3-D model, each may constitute a legal document.

EG1160 - Technical Graphics

This course focuses on basic engineering graphics principles and standards to effectively communicate technical graphical design and also provides the foundation for more advanced engineering graphics concepts. Engineering graphics is the predominant means by which accurate information is communicated within industries pertinent to all engineering technology disciplines. From the simplest in-the-field sketch, to the most advanced 3-D model, each may constitute a legal document.

EG1240 - Architectural Graphics I

This course is taken concurrently with DR2150 - Architectural Drawings and is a continuation of EG1430 - AutoCAD Essentials. It is designed to provide the student with a greater knowledge of CAD and architectural graphic standards and drawing conventions through the use and compliance of the Office Manual. It will also provide an introduction to 3D visualization basics related to Architectural Working Drawings and introduce the student to Building Information Modeling (BIM) software.
Prerequisite(s): EG1110, EG1430
Co-requisite(s): DR2150

EG1250 - Architectural Graphics II

This course is a continuation of more complex Building Information Modeling (BIM) concepts. Students will use 3D design visualization to incorporate all building related information into multi-level models. From these modeling techniques, students will focus on the development of presentation graphics, working with shadows and sun studies and completing simple photorealistic renderings.
Prerequisite(s): EG1240
Co-requisite(s): DR3110

EG1310 - Applied CAD

This is an applied CAD-based drafting course designed to provide learners with the ability to interpret and prepare mechanical and structural drawings which extend the principles presented in EG1110 and EG1430.
Prerequisite(s): EG1430

EG1321 - Drawing Interpretation

This course is designed to provide the learners with the ability to interpret and prepare drawings used in specialized areas of mechanical engineering. Learners will prepare and interpret assembly, piping, welding drawings and P&ID.
Prerequisite(s): EG1110

EG1430 - AutoCAD Essentials •

Computer Aided Drafting software is a tool that enables you to produce engineering drawings more accurately and with greater efficiency. It also facilitates the ability to share files with other software programs. This course is designed in a pedagogical format by presenting the fundamental concepts at the beginning and moving toward the more advanced and specialized features of AutoCAD. It is also designed with the understanding that the student has the engineering graphics fundamentals necessary to apply the AutoCAD software. Applications and examples have an inclination towards many different technology disciplines.
Prerequisite(s): EG1110

EG1520 - Engineering Graphics for Mechanical Engineering Technologies

This intermediate level course is designed to provide students with the ability to interpret and prepare drawings used in specialized areas of mechanical engineering. Students will prepare and interpret Assembly Drawings, Fluid Power Schematics, Sheet Metal Developments, Piping Drawings, Welding Drawings and P & ID diagrams. The development and use of AutoCAD Symbol Libraries and Attribute Extraction will also be studied.
Prerequisite(s): EG1430

EG2120 - Applied Engineering Drafting

This course will cover drafting and design skills enabling students to design basic circuit components, apply them to circuit analysis and interpret blueprint drawings for Electronic System Engineering Technologists. Students will design a Printed Circuit Board using electronic CAD simulation software.

EG2130 - Engineering Graphics

This is an advanced course in computer aided drafting and design. Parametric 3D CAD software is used for both virtual prototyping of mechanical systems and development of related working drawings. The command tools commonly used for 2D sketch development, 3D feature creation, part assembly, 2D drawing generation, 2D drawing annotation, and 3D simulation are explored. For 2D drawing annotation, particular emphasis is placed on the command tools used for geometric dimensioning and tolerancing.
Prerequisite(s): EG1430

EG2250 - Architectural Graphics III

This is the third course in a series of Architectural Graphics courses that allow the student to explore advanced topics in both CAD and BIM. Students will customize features of CAD and BIM software to improve efficiency. Students will explore advanced modeling techniques, overriding graphic views, 2D detailing and preparing construction documentation. Students will also use advanced concepts and procedures in the presentation of animated drawings (walk-throughs) and virtual images which are used for client presentations/ drawings.
Prerequisite(s): EG1250
Co-requisite(s): DR3111

EL1150 - Introduction to Folklore
The role that tradition plays in communication, art and society will be discussed through an examination of folklore materials from Newfoundland and Labrador and the English-speaking world. Through assignments, students will identify and reflect on folklore in their own lives and the lives of others. Transferable to MUN Folklore 1000.

EL1320 - Folklore Studies
This course is an examination of the traditional cultures of Europe and North America with special reference to Newfoundland and Labrador. A selection of the following areas will be covered: settlement patterns, architecture, work and leisure patterns in the folk community, calendar customs, rites of passage, folk religion, folk medicine, language and folk culture, folk costume, foodways and folk art. Transferable to MUN Folklore 2401.
Prerequisite(s): Normally Folklore 1000: Introduction to Folklore is the prerequisite for this course; this can be waived with special permission of the head of the Folklore Department.

EL1360 - Introduction to Anthropology
This course is an introduction to the field of social and cultural anthropology. Taking a cross-cultural approach to the study of society and culture, the focus of this course will be on the global issues of ecology, technology, economy, politics, kinship and ideology. This course will also examine linguistic anthropology, but the emphasis will be on how we use language for human communication rather than on formal linguistics. We will consider how human societies go about solving some of the fundamental problems of human existence. How do we make a living? What forms of social organizations do we take part in and why? How do we think about the universe and our place in it? We will compare some of the social and cultural systems we have in our society with those found in other societies. In this manner we can hope to learn valuable lessons about how people from other cultures attempt to solve existential problems and at the same time see our own social and cultural formations in a new and more critical light. Transferable to MUN Anthropology 1031.

EL1420 - Introductory French I
This is an introductory course designed for students with little or no previous knowledge of French and for those who wish to review basic vocabulary and structure. The course uses mainly the present tense, but also includes an introduction to the past tense (passé composé with "avoir"). EL1420 has a 500-word vocabulary, and covers the most common situations of daily life. Transferable to MUN French 1500.

EL1430 - Introductory French II
This course teaches the use of past tenses and more advanced structures. Students begin to read short texts which are faithful to the original, to write longer compositions, and to explore more complex situations. Transferable to MUN French 1501.
Prerequisite(s): EL1420 or MUN French 1500 or High School French 3200

EL1440 - Introductory French III
In EL1440, it is assumed that students already have a knowledge of basic vocabulary, grammar and constructions of French, in particular the use of the present tense in regular and irregular verbs, and the use of past tenses. This course continues to practice those tenses, but concentrates on the forms and uses of the future, the conditional and the subjunctive tenses. Students are expected to achieve and maintain a high level of accuracy in spelling, grammar and pronunciation. The work of composition and intensive vocabulary building continues, and students are expected to engage in more advanced oral practice. Transferable to MUN French 1502.
Prerequisite(s): EL1430 or MUN French 1501

EL1530 - Fine Art Printing
Students will gain an understanding of the relationship between a digital photographic file and an electronic printer. Particular attention will be paid to the relationship of the file and a final presentation print.

EL2414 - Aboriginals of North America
This course will examine the diversity and similarities of Aboriginal cultures in North America. The course will also look at the role that acculturation has had on the social fabric of Aboriginal people and how they have adapted to this social change. Some of the key focal points of this course will be on economic, kinship, political and religious changes that have occurred and evolved throughout the years. The course will focus on a number of specific case studies from the regions of the sub-arctic, northwest coast, the plains and eastern areas of North America. (This course is transferable to MUNs Anthropology 2414.)

Students who complete this course should be able to demonstrate some understanding of;

1. The complexities of social life of Aboriginal Peoples of North America.
2. The effects of acculturation on the social life of Aboriginal Peoples of North America.
3. The adaptation and rebirth of Aboriginal Peoples of North America

EN1110 - Soil Fundamentals

This is an introductory course in soil science and hydrogeology designed specifically for the Environmental Engineering Technologist. This course exposes the students to the basic concepts of soil science, soil sampling and analysis, and soil classification. Students learn about soil types, soil properties, soil classification, and standard tests and procedures used to evaluate soil properties. Students learn how to conduct site and subsurface investigations through introductory concepts of hydrogeology where they learn to measure and calculate hydraulic conductivity, soil permeability, bore hole sampling, and elements of erosion control encompassing Darcy's Law. Emphasis is placed on an understanding of the occurrence and movement of groundwater in a variety of geologic settings and the effect of human activity on that movement. Other topics include types of aquifers, properties of porous media, groundwater flow, and pump testing of aquifers. The laboratory component of the course explores soil testing methods and analytical problems related to lecture topics.

EN1120 - Environmental Management

This course is environmental management for Geomatics/Surveying Engineering Technology Students. This course gives the student knowledge of how humans can live, develop, and properly use the earth's resources while understanding the many environmental issues. The solving of various environmental problems, identifying and discussing how related provincial and federal regulations apply as well as steps to improve and conserve our natural and urban environments, will form the bases of this course.

EN1210 - Geomatics I (Practical)

This course is designed to expose students to concepts of field navigation. This field oriented course introduces students to navigational skills using map, compass and GPS.

EN1220 - Industrial Hygiene

This course will introduce the student to the fundamentals of Industrial hygiene. It will provide the student with an understanding of the methods of recognition, evaluation, and control of health hazards involving toxic chemicals and dusts in the workplace. This course prepares students to apply industrial hygiene techniques to monitor air quality, and conduct Hazardous Materials Assessments in the HSE (Health, Safety and Environment) field.
Prerequisite(s): EN2321, EN1520

EN1230 - Geomatics II (GIS)

This course is designed to provide students with an overview of Remote Sensing and Geographic Information Systems (GIS) technology. It is designed to introduce basic principles and skills associated with remote sensing; orthophotography interpretation and GPS technology are addressed through lectures and practical applications. Students are exposed to satellite imagery, processes and products and the role of GIS technology in natural resources applications. Students will gain valuable skills and hands-on experience to support resource-based GIS projects typical in the workforce. Using vector-based GIS data models, students will create databases, manage spatial and attribute data, generate map-based and tabular outputs, and perform geographic analysis. The course culminates with a major GIS project designed to reinforce the skills covered in the course.
Prerequisite(s): EN1210

EN1520 - Environmental Sampling Techniques

This course provides the student with the fundamentals of environmental sampling techniques pertaining to procedures, protocol, equipment, and standardized procedures. "Fate and Effects" monitoring will be used as a practical approach to determine the effects of pollution impacts on our environment.

EN1531 - Water Quality

This course will introduce students to various aspects of water quality and will provide an in-depth review of the Canadian Water Quality Guidelines. This course expands upon the students' knowledge of analytical chemistry techniques and emphasizes introductory microbiology and toxicology techniques including exposure to the parameters of a local water treatment plant. Students are introduced to the diversity of microorganisms, their relationship to environmental technology and the basic lab techniques used to identify and enumerate them. This course prepares students to apply their technical knowledge to monitor water quality, domestic and industrial water and wastewater treatment systems and site remediation projects and prepare water quality reports.
Prerequisite(s): CH2715, EN1520

EN1600 - Environmental Assessment

This course, oriented to the needs of the environment industry, introduces the student to the local, provincial and federal environmental legislation, regulations, guidelines and policies that apply to environmental site assessment. The site assessment process is introduced with emphasis on case studies involving a range of projects. It will focus on the CSA/CCME phased approach with projects including a Phase 1 assessment of a local facility.

EN1601 - Environmental Assessment II

This course will introduce students to the concepts, principles, methods and techniques involved in reclamation of a site that has been abandoned, accidentally contaminated or requires a clean-up to conform to environmental standards. This comprehensive course will allow students to make use of course work previously completed in other courses to execute a site remediation plan and supervise contractors performing work, ensuring they complete the project according to the specifications in the contract.
Prerequisite(s): EN1600, EN2300, EN1110

EN2120 - Environmental Citizenship
This course is designed to foster environmental awareness and promote sustainable development. It provides an opportunity for students to discuss, debate, analyze and study current topics related to the use and management of natural resources. Students will be encouraged to consider various perspectives, and offer potential solutions to local, national and global environmental challenges.

EN2300 - Environmental Law
This course is oriented to the needs of the environmental industry and introduces the students to Municipal, Provincial, and Federal Environmental Policy, Legislation, Regulations and Guidelines. The Canadian Justice System framework is introduced with emphasis on case studies involving Environmental Law. Courtroom terminology, proceedings, legal documentation, environmental protection, due diligence and personal and corporate liability will be reviewed in detail.

EN2321 - Occupational Health and Safety
This course enables students to demonstrate knowledge of basic environmental principles and legislation and/or regulations governing the protection of the environment and workplace, together with understanding hazardous materials, how to control them, and learning the necessary skills to work safely.

EN2410 - Environmental Sustainability
This course is designed to foster environmental ethics and sustainable development. It provides an opportunity for students to discuss, debate, analyze and study, current controversial issues related to the use and management of natural resources. Students will be encouraged to consider various perspectives, and offer potential solutions to local, national and global environmental challenges.

EN2545 - Water and Waste Water Treatment
This course deals with water and wastewater management and treatment. The first part of the course focuses briefly on water and wastewater collection and measurement. The second part of the course focuses on water treatment and in-plant abatements and treatment of wastewater flowing from industrial settings. The course will include characteristics of primary and secondary wastewater treatment processes as it relates to overall plant operations. Monitoring procedures and methods of analysis is covered in theory and laboratory sessions. Current and innovative water and wastewater treatment processes will be discussed and evaluated with special attention focused on provincial and federal environmental acts and regulations and how it is related to decision making.
Prerequisite(s): MA1100, EN1520

EN3110 - Environmental Engineering
This course is designed to acquaint the learner with the major areas of pollution control and mitigation. Learners will gain an appreciation of the issues concerning sustainable development, gain familiarity with environmental legislation and risk management systems, as well as various environmental hazards in the workplace. Environmental concerns due to air pollution and noise pollution will be discussed, as well as solid waste management and wastewater treatment.

EN3111 - Environmental Engineering I
This is a combined theory/laboratory course dealing with mass and energy transfer and water resources. The first part of the course focuses briefly on mass and energy. The second emphasis of the course is an introduction to knowledge, practices, theories and applications relevant to hydraulics and hydrology. The characteristics of pressure, flow, and energy in both closed conduits and open channels will be studied. The Hydrological Cycle and the different forms of precipitation along with the surface and groundwater movements of water are studied and methods of analysis are covered in theory and laboratory sessions. Special attention is focused on best management practices, in particular how these relate to decision making.
Prerequisite(s): MA1100

EN3120 - Environmental Engineering II
This course deals with air pollution and solid waste management. The first part of the course focuses briefly on the principles of meteorology. The second part of the course places emphasis on practices, theories and applications relevant to air pollution. The third section of this course concentrates on the management of municipal, industrial and hazardous solid waste. All topics are studied and methods of analysis are covered in both the theory and laboratory sessions. Special attention is focused on best management practices and how they are related to decision making.
Prerequisite(s): EN3111, EN1520

EN3200 - Environmental Impact Assessment
This course, oriented to the needs of the environment industry, covers the basics of the environmental assessment procedure. The course carries on from the Environmental Law course where a broad overview of the legislation is presented. Students review the assessment legislation in detail and develop the tools needed to perform an environmental impact assessment. Students then perform a case study to assess a small local project.
Prerequisite(s): EN2300

EN3300 - Environmental Auditing
This course will enable the student to: assure compliance with relevant Federal, Provincial, and Municipal requirements; identify, evaluate and reduce environmental risks and liabilities; and conduct an environmental audit of a local industrial operation.
Prerequisite(s): EN2300
Co-requisite(s): EN1600

EN3400 - Environmental Management and Protection
This course introduces students to the fundamentals of resource management. It examines common pollutants found in industries in Newfoundland and Labrador. It explores the various pieces of legislation that apply to industrial pollutants in the province. Pollution reduction and treatment are also studied.
Prerequisite(s): CH3450 or CH2330

EP1100 - Entrepreneurial Studies •
Students will acquire the necessary skills and techniques to develop a sound business plan. This course is designed to develop an appreciation of small business, particularly as it relates to understanding the entrepreneurial process. Areas covered will include: market assessment, financing alternatives, organizational structuring, and planning techniques. In addition, a feasibility study will be required to establish the demand for a particular growth sector in the economy.

EP1110 - Introduction to Business •
This course will introduce students to business systems, forms of business ownership, production, marketing, finance, personnel and labour relations, international business and small business ownership. Students will describe and compare aspects of business, economics, and finance, including the functional areas of a business.

EP1130 - Business for Information Systems •
This course will provide students with an overview of business principles and practices relevant to the IT industry. Students will be introduced to the functional areas of business and the processes within each function. Emphasis will be placed upon awareness and literacy of each functional area as they apply to the local and national markets.

EP2000 - Entrepreneurship in Practice
Students will acquire the necessary skills and knowledge to assess and determine their potential as an entrepreneur. This course is designed to assist students in developing an understanding of the importance of small business in our economy; in exploring new business ideas and opportunities; and in developing and understanding the tools available for planning a business. Areas of study will include the entrepreneurial mindset and process, feasibility studies, marketing plans, market assessment, financing alternatives, legal considerations and business plans.

EP2130 - Business Principles and Practices •
This course will provide students with an overview of business principles and practices relevant to the IM industry. Students will be introduced to the functional areas of business and the processes within each function. As well, students will be exposed to business intelligence and enterprise resource planning systems.

EP2150 - Entrepreneurship •
This is an introductory course that analyzes aspects of entrepreneurship and the link between entrepreneurs and small business. It presents a fundamental approach to planning and operating a firm incorporating basic steps in business management and explains how each step can best be accomplished.

EP2200 - Business Planning •
This is a comprehensive advanced-level course in developing a comprehensive business plan. The student will identify a business idea, product or service, conduct an industry analysis, and develop plans for operational and human resources, marketing, and finance. The student will also conduct a risk assessment and present their plan to a panel of industry experts. The student will apply his/her knowledge from previous terms in a practical manner.
Prerequisite(s): EP2250

EP2250 - Small Business Development •
This is an advanced course is the use of primary and secondary research techniques and analysis. The student will explore secondary research analysis, competition and demand analysis, project site and area evaluation, estimates of operating results. The student will be required to produce and present a research report establishing the feasibility for an opportunity or a particular growth sector in the economy. Topics for this report will be based on personal selection or on a mentoring process with a potential or present business owner. This plan is developed based on two prior years of Business Management education and is intended in part to prepare the student to own or operate a small business.
Prerequisite(s): AC2260, CM2300, EC1110, MA1670

EP2400 - Business Solutions •
 This course will introduce students to the ways that organizations improve their business practices through the use of computer technology. The course emphasizes systems technologies, enterprise integration, business applications, and critical analysis of organizational change through information systems.
Prerequisite(s): CP1930 OR CP1410 OR CP3421, EP1130 OR EP1150 OR AC1300

EP2410 - Business Solutions for App Developers
This course will introduce students to the ways that organizations improve their business practices through the use of computer technology. The course emphasizes the concepts that guide ebusiness and explains the business strategies and models that have emerged.
Prerequisite(s): CP1935

ES1000 - ESL I •
English as a Second Language (ESL) I is designed for students who wish to improve their English language proficiency. It aims to improve English language skills in listening, speaking, reading, writing, vocabulary, and grammar through an integrated and communicative approach. ES1000 focuses on general and academic contexts of language use and incorporates topics related to college programs. Success strategies related to independent learning, academic study, and critical thinking are embedded in the course. Learning objectives for this course include making inferences while listening, taking conversational turns in speaking, identifying main ideas and supporting details while reading, and organizing and developing paragraphs in writing. Upon course completion, students will have attained English proficiency at an approximate Canadian Language Benchmark (CLB) 5 level.
Prerequisite(s): An appropriate score on the CNA-ESL placement test or recognized test of English language proficiency (e.g. TOEFL, CAEL, IELTS, etc.) or Canadian Language Benchmark (CLB) 4

ES2000 - ESL II •
English as a Second Language (ESL) II is designed for students who wish to improve their English language proficiency. It aims to improve English skills in listening, speaking, reading, writing, vocabulary, and grammar through an integrated and communicative approach. ES2000 focuses on academic contexts of language use and incorporates topics related to college programs. Success strategies related to independent learning, academic study, and critical thinking are embedded in the course. Learning objectives for this course include understanding main ideas while listening, checking for understanding in speaking, previewing and predicting context while reading, and organizing and developing essays in writing. Upon course completion, students will have attained English proficiency at an approximate Canadian Language Benchmark (CLB) 6 level.
Prerequisite(s): Successful completion of ES1000 - ESL I or an appropriate score on the CNA-ESL placement test or recognized test of English language proficiency (e.g. TOEFL, CAEL, IELTS, etc.) or Canadian Language Benchmark (CLB) 5

ES3000 - ESL III
English as a Second Language (ESL) III is designed for students who wish to improve their English language proficiency. It aims to improve English skills in listening, speaking, reading, writing, vocabulary, and grammar through an integrated and communicative approach. ES3000 focuses on academic contexts of language use and incorporates topics related to college programs. Success strategies related to independent learning, academic study, and critical thinking are embedded in the course. Learning objectives for this course include distinguishing facts, opinions, and examples while listening, discussing preferences, alternatives, and advice in speaking, anticipating content through questions and identifying author's intent while reading, and organizing supporting ideas using evidence to support an argument in writing. Students are encouraged to explore further learning opportunities at College of the North Atlantic that promote student success including time management as a means for educational success. Upon course completion, students will have attained English proficiency at an approximate Canadian Language Benchmark (CLB) 7 level.
Prerequisite(s): Successful completion of ES2000 - ESL II, or an appropriate level score on the CNA-ESL placement test or recognized test of English language proficiency (e.g. TOEFL, CAEL, IELTS, etc.) or Canadian Language Benchmark (CLB) 6

ET1100 - Electrotechnology
This is an introductory course in electrical theory covering the basic concepts of electricity, circuit analysis and magnetism. The laboratory work is designed to develop skills in the construction of electrical circuits and use of electrical measuring instruments as well as reinforcing theoretical concepts.

ET1101 - Electrotechnology
This is a continuation of the Electrotechnology course taken in the first semester. It covers the basics of A.C. theory and the application of this to solve circuits containing resistance, capacitance and inductance. An introduction to transformers and polyphase A.C. circuits is also included.
Prerequisite(s): ET1100

ET1120 - Electronics for Audio
Electronics for Audio is a Sound Recording & Production course. It is designed to prepare students for entry into work in the sound recording and production industry. It will provide the basic knowledge needed to perform circuit analysis and, more importantly, allow the student to design, modify, and test circuit designs necessary in their field. In addition, once completed, students should be able to troubleshoot existing electronic devices and connect them correctly and safely.
Co-requisite(s): MA1100

ET1140 - AC/DC Fundamentals
This is an introductory course in electrical theory covering the fundamentals of Direct Current (D.C.) and Alternating Current (A.C.) electricity. Students will be exposed to basic electrical quantities, basic electrical circuits, and circuit analysis techniques for circuits containing resistance, capacitance, and inductance. An introduction to transformers is also included.
The laboratory work is designed to develop skills in the construction of electrical and electronic circuits, use of electrical measuring instruments and reinforce theoretical concepts.
Co-requisite(s): MA1101, PH1140

ET2100 - Electrotechnology
This course covers advanced topics in AC and DC circuit analysis as well as an introduction to DC machines and transformers. It will provide the necessary background for students to enter second year Electrical and Electronics programs.
Prerequisite(s): ET1101, MA1101

ET2150 - Advanced Circuit Analysis
In this course, learners will review techniques of differential equations, first order and second order: integral combinations; growth and decay problems; the analysis and solution of source free RL and RC circuits; driven RL and RC circuits using differential integral calculus; sinusoidal analysis; the concept of phasors, and steady state response. The learner will learn mathematical techniques and apply these to the concepts to analyze and solve differential equations.

Topics include waveform analysis and synthesis, time domain analysis, solution of differential equations using LaPlace transforms, application of LaPlace transforms to solve electric circuits, and derivation of transfer functions. In addition, the following topics will be covered in this course: Fourier expansion of periodic function, even and odd, Fourier analysis of waveforms and their application to electrical signals, and impulse response.
Prerequisite(s): MA2100, ET1151 or MP2140

EY1200 - Ecosystem Ecology
This course investigates the ecological relationship of a variety of ecosystems that occur in Newfoundland and Labrador. This course will examine the ecological components and focus on identification of these components and the structure, function and adaptations of specific organisms.
Prerequisite(s): BL1400

EY2110 - Ecology
This course focuses on basic ecological principles and concepts, ecological sampling techniques and field and laboratory exercises carried out in an appropriate environment. It involves significant and relevant field work, as well as the preparation of a report on terrestrial and aquatic ecosystems, populations, species interactions and ecological communities.

EY2210 - Silvics/Dendrology I
This is an introductory course to trees and shrubs both native and introduced to Newfoundland and Labrador. Species identification, classification and distribution are studied in detail. The influence of the environment upon the growth and reproduction of trees, stands, and forests are explored. Forest site analysis and classification are introduced and studied in detail.
Prerequisite(s): BL1120

EY2211 - Silvics/Dendrology II
This is an advanced course of study in Forest Ecology. Forest site analysis and classification are studied in detail. The influence of forest genetics, the physical and biotic environment, upon the forest ecosystem are covered. Native and exotic tree/shrub identification is a key component within the course.
Prerequisite(s): EY2210, FR1330
Co-requisite(s): FR2360, FT1401

EY2510 - Population Ecology
Concepts of population dynamics and modeling and applications in fish and wildlife management.
Prerequisite(s): BL1400, RM1401, RM1500

FH1200 - Principles of Physical Fitness
This course provides an introduction to principles of physical activity. Students will study the human anatomy with particular reference to skeletal and muscular systems of the human body, principles of training, exercise and weight control, fitness theory and active living and use of pedometers in physical activity. The course is designed for potential fitness leaders and active living programmers.

FH1230 - Physical Activity Programming for Older Adults
This course provides students with an introduction to physical activity programming for the older adults. It is designed to enable students to plan and evaluate a variety of programs for older adults based on current knowledge and trends.

FH1340 - Health & Safety •
This course will address the attitudes and knowledge early childhood educators must have in order to support the health and safety needs of children and themselves. Students will develop a working knowledge of policies and practices that adhere to provincial legislation and standards with regards to the health and well-being of children, and the establishment of positive habits and attitudes toward health and safety. Students will recognize symptoms of ill health and determine appropriate care for a sick child in a group setting. Students will recognize safety hazards and plan to minimize risk. Students will explore the issue of child maltreatment and recognize their responsibilities as early childhood educators with regards to recognition and reporting.

FH1360 - Childhood Nutrition •
This introductory course addresses the fundamental concepts of nutrition. Students will study the basic nutrients and learn about the recommended daily intake for children. Students will develop a working knowledge of Canada's Food Guide and utilize this knowledge in the planning and preparation of healthy snacks and meals for children.

FH1500 - Personal Wellness •
Optimal wellness is critical to a student's success in the workplace and in life. Students will be introduced to the eight dimensions of wellness: physical, mental, social, spiritual, intellectual, environmental, occupational and financial. Students will determine their own 'wellness level' and be encouraged to make healthy lifestyle choices. The goal is for the student to achieve a sense of balance in life which is attained through high levels of understanding and being active in each dimension of wellness.

FM2100 - Fluid Mechanics
This is an introductory course in fluid mechanics designed to develop knowledge of the laws and principles governing fluid mechanics and the ability to apply this knowledge in analyzing related engineering applications. The course also provides a base for advanced courses in piping design, ducting design, and fluid power systems.
Prerequisite(s): PH1100

FM2102 - Fluid Mechanics
This is an introductory course in fluid mechanics designed to develop knowledge of the laws and principles governing fluid mechanics and the ability to apply this knowledge in analyzing related engineering applications. The course also provides a base for advanced courses in piping design, ducting design, and fluid power systems.
Prerequisite(s): PH1101

FM2201 - Mechanics (Dynamics)
This course in mechanics introduces the fundamental concepts of dynamics and builds on the basic principles of statics presented in previous courses. The course provides students with the basic requirements for the analysis of engineering problems and for understanding of design principles of various machines and mechanisms. The topics studied include kinematics and kinetics of particles, impulse and momentum, kinematics of rigid bodies, forces and acceleration, balancing, work and energy, and mechanical vibrations.
Prerequisite(s): CF2540 or FM2200

FM2340 - Fluid Dynamics
This is an intermediate Fluid Mechanics course designed to develop both the knowledge and the laws and principles governing Fluid Mechanics and the ability to apply this knowledge in analyzing related engineering applications. The course extends on Fluid Mechanics FM2100 and provides the foundation for advanced courses in piping design, ducting design and fluid power systems.
Prerequisite(s): FM2100

FM3100 - Fluid Power
This is an intermediate level course designed primarily for students in the Electrical and Mechanical Engineering Technology Programs.
Prerequisite(s): PH1101, EG1520 or TM1310 or DR2320 or DR2350

FM3200 - Machine Design I
This course is an introduction to the primary considerations in the design of machines as they relate to each other, to their operators and to the environment. Machines will be seen as converters of energy and as the extension of human power. The composition and characteristics of machines will be presented. The underlying principles of mechanics of machines and strength of materials will be demonstrated enabling the student to participate in the design of machinery. The student will gain practical manufacturing exposure and experience.
Prerequisite(s): CF2540 or CF2100

FM3220 - Machine Design
Machine design concepts extended by introducing students to typical industrial application components used for machine design. The ability to follow accepted industry practice in the design, specification and selection of standard machine design components is emphasized.
Prerequisite(s): FM3200

FN1140 - Introduction to Finance
This course develops the concepts for the financial foundation of all upper level finance courses. The course is designed to provide an introductory level of finance concepts and the use in business decisions. In this course the student will explore the importance of finance in business. Topics merchandising, interest calculations, debt amortization, annuities, bonds and sinking funds, foreign currency computations, and capital budgeting. Students will use a financial calculator or spreadsheet to make financial management decisions.

FN2110 - Business Finance •
This course is an intermediate course in the complexities of business financial management. The student will explore financial analysis and planning, working capital management, capital budgeting, and long-term financing. The course will integrate both short-term and long-term financial considerations, as well as concepts from accounting, statistics, and economics.
Prerequisite(s): AC2260

FN2111 - Business Finance II

The purpose of this course is to extend knowledge and understanding of finance principles by focusing on various problems and decisions confronting the financial manager. Specific topics include sensitivity analysis, corporate planning models, financial statement analysis and forecasting; short and long-term financing; commercial banking; capital budgeting; dividends and dividend policy; options, swaps, futures, forwards, firm valuation; and mergers and acquisitions. The student will conduct an in-depth study of issues and tools that financial managers use in financial planning and strategic management. The course will use real-world cases to teach the material.
Prerequisite(s): FN2110

FN2160 - Investments - An Overview

Students are expected to be familiar with the different investment avenues available to investors who are interested in optimizing their return on their investments. This course will address the concept of risk management and its application to the average investor and will provide an overview of the different investment strategies and their potential risks and returns.

FR1230 - Forest Fire Management

This course is an introductory course and will provide the student with basic information on activities concerned with the protection of forests from fire.
Co-requisite(s): FT1400

FR1330 - Natural Resource Measurements I

This course is designed to introduce basic principles, skills and techniques in the sampling and measurement of natural resources with emphasis on forests and wildlife. Students will become competent in the use of the various tools and equipment used in the measurement and evaluation of natural resources. The application of map and compass, GPS, and aerial photographs through field exercises, in the evaluation of natural resources, is a key component of the course.
Prerequisite(s): SU1150, MA1100

FR1331 - Natural Resource Measurements II

This advanced level course in the principles of natural resources measurements places emphasis on the design, conduct and application of a variety of survey methods to assess forest characteristics using GIS and GPS. The application of statistical analysis to timber cruises, forest inventories, growth prediction and site classification is the central focus. The measurement of forest products is addressed, as is the assessment of non-timber values of the forest ecosystem.
Prerequisite(s): FR1330, MA1670, FT1400
Co-requisite(s): FR1560

FR1400 - Wood Products

This course deals with the importance of the wood products industry in our society. The identification characteristics and uses of Canadian woods are studied. As well, the fundamental wood properties and the technical requirements for various wood products are studies.

FR1560 - Timber Harvesting I - Roads

This second year course uses skills learned in Forest Surveying for the collection of field notes for various labs - especially road location. Students are introduced to forest road construction terms, environmental guidelines, and planning and operating practices. Students plan, do reconnaissance, and lay out a forest road.
Prerequisite(s): SU1710, FT1400
Co-requisite(s): FR1331, FT1401

FR1561 - Timber Harvesting II

This course is a follow-up to Timber Harvesting I course that covers road construction in the woods. This course deals mostly with harvesting and trucking forest products. Emphasis is on environmental management of woodlands operations as well as logging system productivities and costs.
Prerequisite(s): FR1560

FR2340 - Hydrology

This course has been designed to provide students with principles and application methods related to water resources. The content extends from a review of hydrogical processes and principles in general, through detail analysis of the water cycle in particular, and finally to linking of theory to practical applications. The applied aspects of this course center on field and office methodology use to assess water resources from the perspective of input, storage and output at the watershed level. The relationship between water, forests and humans is a central theme.
Prerequisite(s): FR1330

FR2350 - Forest Entomology/Pathology

This course involves the study of the major forest enemies of North America (excluding fire). Emphasis will be placed on insects which damage or benefit the forest and on biotic and abiotic causes of forest disease. Prevention and protection measures of above are covered. Field collection and diagnosis are emphasized, stressing the importance of signs leading to early detection.
Prerequisite(s): EY2210 , FR1330

FR2360 - Silviculture

This course involves a study of a wide range of silviculture practices as applied to the establishment and tending of forest stands. This includes the design, conduct and monitoring of operational programs in planting, seeding, site preparation, tree seed procurement and improvement, and nursery production as well as stand manipulation including pre-commercial thinning, commercial thinning, pruning, and other vegetation control methods.

Prerequisite(s): FR1330
Co-requisite(s): EY2211, FT1401

FR2430 - Wildlife Management

An introduction to the basic Wildlife Management principles, concepts and techniques as they relate to big game, fur bearers, small game, waterfowl, inland fishing, non-game and endangered species. Lectures concentrate on principles and concepts while labs are designed for learners to apply techniques and learn identification and life history.

Prerequisite(s): FR1330

FS1100 - Family Services I

Family Services I is the first in a three course series designed to introduce the student to family services. This initial course, Family Services I will focus on family structure by looking at the different structures of family, marriage, and alternative living arrangements, socialization and parenting. Upon completion of this course, students will understand the diversity of families in today's society, trends concerning families in the 21st century, the meaning of marriage and other forms of partnering, and the responsibilities of parenting.

FT1240 - Surveying Field Camp

This is a one week field camp to immerse the student in the field applications of Geomatics data gathering, mensuration and presentation. The work is done in a group setting where team play is essential for successful completion of assigned projects. The planning, execution, checking and successful completion of the group projects is emphasized.

Prerequisite(s): SU1320, SU1500
Co-requisite(s): SU1321

FT1260 - Multidisciplinary Field Camp

This camp is a hands-on session where the data gathering skills learned throughout the Geomatics/Surveying Engineering Technology (Co-op) program are reinforced by practical field work. The camp will involve different projects with each project involving a different aspect of the program. The projects will be designed to gather and process data and compile the data into maps and a report. Maps and reports will be submitted to instructor(s) and are produced based on industry standards.

Prerequisite(s): SU2330, SU1540, SU3500
Co-requisite(s): SU1541, SU3300

FT1340 - Civil Engineering Technology Camp

This course introduces the learner to the practical elements of various construction processes. In addition, this course provides the learner with an insight into on-site supervision and construction.

FT1400 - Forestry Field Camp

A two week field camp is conducted at the end of the intersession semester. This camp is designed to enable students to take part in major practical exercises using standard practices of measurement and data collection in an operational setting. Throughout the two week period, the proper care of equipment, safety practices, and basic skills such as map interpretation, compassing, vegetation identification, ecosystem analysis, etc. are emphasized. Major topics reinforce prior learning from the second semester and intersession.

Prerequisite(s): SU1710, SU3210, FR1330
Co-requisite(s): FR1230

FT1401 - Forestry Tour/Camp

This five day field tour is designed to insure that the students have an opportunity to visit and investigate a number of special forestry facilities and operations across the province. Visits include such unique operations as the Provincial Nursery at Wooddale, Newfoundland's largest sawmill in Glenwood, and the Fire Center and Thomas Howe Demonstration Forest in Gander.

Co-requisite(s): EY2211, FR2360, FR1560

FT1410 - Fish and Wildlife Field Camp

This course is an 8-day field camp conducted at the end of the Intersession semester. This camp is designed to enable students to take part in major practical exercises using standard practices of measurement and data collection in an operational setting. Throughout the 8-day period the proper care of equipment, safety practices, and basic skills such as map interpretation, compassing, vegetation identification, trapping, and other fish and wildlife techniques are emphasized. Major topics reinforce prior learning from the second semester and intersession.

Prerequisite(s): FR1330, SU3210
Co-requisite(s): RM1400, RM1500

FT1430 - Fish & Wildlife Camp II
A one-week camp conducted during the third semester. This camp is designed to enable students to participate in research/project being undertaken by a major external agency (National parks, Canadian Forest Service, Provincial Wildlife and DFO). Students are involved in the accumulation of field data for these projects.
Co-requisite(s): RM2200

FT1630 - Petroleum Operations Practical
This course is designed to provide students with practical knowledge of petroleum field operations. Emphasis will be placed on drilling unit types, rotary drilling rigs, cementing designs, drilling fluids, the drill string, drill bits, well control and all aspects of safety while drilling. Training is also provided in sour gas handling (H_2S), Workplace Hazardous Materials Information System (WHMIS), Fire Safety, First Aid and Transportation of Dangerous Goods (TDG).

FV1110 - History of Cinema
This course offers an examination of the history of provincial, national and international cinema from its beginnings to the present. Through lecture, observation, and critical examination, students will be exposed to the evolution of styles, cinematic techniques and the institutional culture of film providing students with a background in the general history and development of the medium.

FV1210 - Digital Filmmaking Techniques I
This is a technical course for Digital Filmmaking students. The course is designed to give students the knowledge and skills needed to use and understand the equipment required to produce professional films. The focus is on the camera as a tool while learning how to manipulate it to create and design a professional quality image.
Co-requisite(s): FV1260

FV1221 - Short Film Production I
This Intersession will constitute an intermediate practicum in the course work covered in the first and second semester. Each student will be given one of the many different positions found on a film crew and will be responsible to complete all tasks associated with that position for the purpose of producing a film. At the end of the semester, the film produced will then be presented to an audience.
Prerequisite(s): FV1230; SN2420; FV1210; FV1235; CM1680; FV1280; FV1285
Co-requisite(s): FV1290

FV1230 - Overview of the Film Industry
Students will learn about the operations of filmmaking and digital production from pre-production through delivery. Students will also have opportunity to gain a greater understanding of the fundamental processes, personnel, job descriptions and role responsibilities within a complex industry. These fundamentals such as set etiquette, protocols and safety practices are explored along with professional expectations while working as a member within a competitive and hierarchical structure.

FV1235 - Director Studies I
This course will give students the knowledge needed to produce their own films. They will learn techniques on how to work with crew members and actors to convey their creative vision as well as an understanding of all the different documentation needed to plan a film shoot. Each student will produce their own narrative film.
Co-requisite(s): FV1285; CM1680

FV1260 - Introduction to Post Production
This course will introduce students to the practical exploration of editing options and theoretical knowledge required when using a post-production suite to perform picture and sound editing.
Co-requisite(s): FV1210

FV1280 - Lighting & Grip
Students will learn the practical skills associated with the lighting and grip department and their operation in the motion picture environment. Students will explore basic electrical theory, different types of light fixtures and connections, cable management, rigging techniques, camera support equipment, light shaping equipment and techniques as well as reading and creating lighting schematics.

FV1285 - Picture & Sound Editing
This is an intermediate editing course designed to expand upon the post-production workflow and software. Students will complete a number of editing assignments designed to encourage creativity and technical skill development.
Prerequisite(s): FV1260
Co-requisite(s): FV1235

FV1290 - Digital Filmmaking Techniques II
Students will become familiar with professional digital cinema cameras and camera accessories associated with cinematic production techniques. Through practical exercises, students will gain a working knowledge of the capabilities, limitations and technical issues of modern digital filmmaking.
Prerequisite(s): FV1210

FV2000 - Art Direction & Production Design
This course will provide students with an understanding of the Art Department on a film production. Students will learn the basics of design, costuming, set construction, decorating and props. They will be expected to read scripts and research time periods while designing a look.
Prerequisite(s): HY1130
Co-requisite(s): FV2010

FV2010 - Digital Cinematography
This course will cover the digital cinematography aspects of filmmaking. This includes the technical application of industry standard digital filmmaking equipment along with the theoretical language of cinema.
Prerequisite(s): FV1280

FV2020 - Live TV & Webcasting
Students will use industry-standard television production studio equipment to create single and multi-camera programing and webcasting.
Prerequisite(s): FV1290, FV1280

FV2030 - Director Studies II
This is an intermediate course where students learn the roles and responsibilities of the film producer: script selection, director and crew recruitment, actor negotiations, pitching investors, director-producer collaboration, publicity and distribution.
Prerequisite(s): FV1235

FV2040 - Film Industry & Certifications
This course will prepare students to fully understand the film industry and all the "key players" within it as well give students a collection of short-form courses that will supply sanctioned certifications required for film production union referral status.
Prerequisite(s): FV1230

FV2050 - Advanced Documentary
This is an advanced "project-oriented" course that will teach students the demands of development, funding, distribution, legal and copyright issues. Students will also learn the advanced techniques used in a documentary film production.
Prerequisite(s): FV2210; FV1285

FV2060 - Colour Correction/Sound Design
Designed for intermediate to advanced studies, this course will help students learn how to put the finishing touches to their work. Colour correction, grading, sound design and mixing are all necessary skills accompanied with the avid suite. Students will develop a greater understanding of colour theory and how to use it properly in the development of a film as well as learning how to design a sound mix for their films with the ultimate goal of giving their final films a professional look and sound.
Prerequisite(s): FV1285
Co-requisite(s): FV2070

FV2070 - Director Studies III
This course is designed to give students a better understanding of how the Director works with the post-production crew as well as how to promote and present a finished film to an audience. Each student will be responsible for completing their own individual final film projects while working together to present during the Final Film Festival.
Prerequisite(s): FV2030; MM1400
Co-requisite(s): FV2060

FV2080 - Short Film Production II
This is the second and final Intersession of the program and will constitute an advanced practicum. Students will apply acquired technical skills and theoretical knowledge to plan and shoot a short narrative film.
Prerequisite(s): FV1221
Co-requisite(s): PD1110

FV2210 - Documentary Filmmaking
This "project-oriented" course will introduce students to the world of documentary filmmaking. Students will practice research techniques and write treatments while obtaining necessary skills required for producing high-quality documentaries.
Prerequisite(s): FV1210
Co-requisite(s): FV1285

FW1130 - Field Placement I
This field related course is designed to assist students in obtaining occupational experience. This course is a six-week field placement for students pursuing a Tourism & Hospitality Services Certificate or a Tourism & Hospitality Management Diploma. The purpose is to provide students the opportunity to apply the knowledge and skills acquired in class to a position in the tourism industry. Most field placements will be in entry level positions in food and beverage, front desk and housekeeping or in other tourism businesses or organizations.
The supervising program instructors will assist students in securing a suitable placement within the tourism and hospitality industry. The instructors will evaluate the student's progress in conjunction with the field placement supervisor. Arrangements and expenses for transportation, lodging, and meals are the sole responsibility of the student.
Prerequisite(s): HS1131, HS1340, HS1740, MR1270, TR1110, TR1120, TR1610

FW1140 - Field Placement II
This field related course is designed to assist students in obtaining additional occupational experience at the management level with a supervisor or manager. This course is a six-week field placement for students pursuing a Tourism & Hospitality Management Diploma. The purpose is to provide students the opportunity to apply the additional knowledge and skills acquired in year two to a position in the tourism industry.

The supervising program instructors will assist students in securing a suitable placement within the tourism and hospitality industry. The instructors will evaluate the student's progress in conjunction with the field placement supervisor/manager. Arrangements and expenses for transportation, lodging, and meals are the sole responsibility of the student.
Prerequisite(s): Successful completion of FW1130 and all courses in Semesters 4 and 5

FW1180 - Field Placement Preparation
Students will prepare for their field placement experience and will gain the necessary information to help them benefit from the field placement experience.
Prerequisite(s): Successful completion of all Semester 1 and 5 courses

FW1210 - Field Placement
Journalism students are placed for six weeks with a professional news organization, applying and building upon the training they received in previous semesters. Students pursue learning objectives related to their individual career goals while receiving on-the-job training. In conjunction with a field supervisor (who is an employee in the placement agency), the instructor supervises and evaluates the student's progress.
Prerequisite(s): JL1190, JL1430

FW1235 - Field Placement Preparation
This course helps students prepare for field placement. In the course students will identify and pursue possible field placement opportunities, prepare learning contracts, and receive direction on completion of field placement documentation. Faculty will work with community stakeholders and students to help secure a field placement option and determine the most appropriate means for completing the field placement requirements. In addition, students will review ethical and legal guidelines to prepare them for placements with human service agencies.

FW1320 - Field Placement (Post Diploma)
Post-Diploma Journalism students are placed for four weeks with a professional news organization, applying and building upon the training they received in their first two semesters. Students pursue learning objectives related to their individual career goals while receiving field work training. In conjunction with a field supervisor (an employee in the placement agency), the instructor supervises and evaluates the student's progress. Students learn to produce journalism in a professional atmosphere through a combination of hands-on assignments and job shadowing. Post-Diploma students will produce a major piece of public service journalism during the field placement.
Prerequisite(s): JL1851

FW1445 - Field Placement I
This course consists of a five-week placement with a human services agency in a voluntary capacity. Students are responsible for obtaining their own placements while working in collaboration with their field placement instructor. Students are encouraged to seek field placements which allow them to meet personal interests and goals. Each student will be assigned a field placement supervisor who will monitor and evaluate the student's progress. Students are responsible for completing and submitting field placement documentation for evaluation and grading.
Prerequisite(s): CM1100, HR1120, LD1200, CM2100, LD1120, FW1235, LD1300

FW1451 - Field Placement II
This course consists of a five-week placement with a human services agency in a voluntary capacity. Students are responsible for obtaining their own placements in collaboration with their field placement instructor. Students are encouraged to seek field placements which allow them to meet personal interests and goals. Each student will be assigned a field placement supervisor who will monitor and evaluate the student's progress. Students are responsible for completing and submitting field placement documentation for evaluation and grading. (Please note: under extenuating circumstances wherein an external field placement is not secured, an equivalent industry-related project approved and supervised by the instructor is acceptable.)
Prerequisite(s): FW1450

FW1600 - Field Placement I

During field placement, students begin to link theory to practice. Students will participate in seminars to learn basic knowledge and skills necessary for a successful placement experience, and spend a block of time at a field placement site. In this first supervised placement, the focus will be on students becoming familiar with the role of the early childhood educator and the program itself. Students will practice interacting and responding in positive ways to children, and engage in developmentally appropriate play with individual and small groups of children. Please note that time will be spent in the College's demonstration child care centre as part of the series of block placements. Opportunities to work with a variety of age groups across the series of field placement courses will be provided where possible.
Prerequisite(s): Valid First Aid Certificate
Co-requisite(s): EE1180, EE1340, EE1290, EE1420, FH1340; these courses may be completed as prerequisites

FW1601 - Field Placement II

During this second supervised field placement students will continue to link theory to practice, participating fully and assisting with all aspects of the program. It is expected that confidence and competence is increasing in interacting with and guiding children's behaviour, and working with staff, families and community members. Students will begin to add developmentally appropriate materials to the learning environment to support children's play, and will plan and implement a variety of developmentally appropriate activities for individual and groups of children. The importance of an inclusive, child-centred, active learning approach will be reinforced. Please note that time will be spent in the College's demonstration child care centre as part of the series of block placements. Opportunities to work with a variety of age groups across the series of field placement courses will be provided where possible.
Prerequisite(s): EE1180, EE1340, EE1420, EE1340, EE1290, FW1600
Co-requisite(s): EE1181*, FH1360*, EE1421*, EE1360* These courses may have been completed as prerequisites

FW1710 - Supervised Field Placement Experience I

Supervised field placement experience is an integral part of the total curriculum allowing students the opportunity to apply knowledge and training gained from the semester and constitutes a basic preparation for a wide range of professional practice for full-time registered students. The course instructor will assess students throughout the semester and place accordingly in a variety of approved settings to display leadership qualities and work independently using skills acquired from semester for four weeks (160 hours) following course training. Students will be placed in instructor approved agencies such as: long term care facilities, hospitals, municipal recreation departments, and community agencies. Throughout the semester, students will review field placement requirements and documentation, types of placements, and professional conduct. The instructor supervises and evaluates the student's progress in conjunction with a field supervisor (who is normally an employee in the placement agency).
Prerequisite(s): Clear First Aid/CPR Certificate, Clear Certificate of Conduct must be dated no more than 2 months prior to the start of the semester, Vulnerable Sector Check, Updated Immunization Record
Co-requisite(s): FH1200, RS1230, RS1100, RS1280

FW1711 - Supervised Field Placement Experience II

This course is the second of four supervised field placement experience courses. It is an integral part of the total curriculum allowing students to build on experiences gained from FW1710 while providing students the opportunity to apply knowledge and training gained from winter semester. As well, students will be prepared for placements based on standards acceptable to the industry. Course instructor will assess students throughout the semester and place accordingly in a variety of approved settings to display leadership qualities and work independently using skills acquired from the semester which constitutes a basic preparation for a wide range of professional practices. Students will review previous placement experiences, types of placement and placement documentation issues and concerns. The instructor supervises and evaluates the student's progress in conjunction with a field supervisor (who is normally an employee in the placement agency).
Prerequisite(s): FW1710, RS1280, RS1100, Valid First Aid/CPR Certificate, Valid Certificate of Conduct, Updated Immunization Record.
Co-requisite(s): RS1250, RS1450

FW2600 - Field Placement III

During this third supervised field placement the focus is on students working in teams along with staff to implement the program. Students will plan cumulative play experiences and utilize webbing as a tool for planning of the curriculum. Students are expected to demonstrate initiative with regards to independently facilitating spontaneous and pre-planned play experiences for individual children, small groups, and large groups. Students are expected to demonstrate an inclusive approach to curriculum and interactions with families. Please note that time will be spent in the College's demonstration child care centre as part of the series of block placements. Opportunities to work with a variety of age groups across the series of field placement courses will be provided where possible.
Prerequisite(s): EE1181, EE1341, EE1421, FH1360, EE1360, EE1440, EE1480, EE2500, FW1601

FW2601 - Field Placement IV

During this fourth supervised field placement, students are expected to demonstrate increased competence in planning and implementing the routines and schedule, preparing and implementing a cumulative curriculum to meet the needs of all the children, and interacting with parents and community service providers. With guidance, students will implement specific supports for children with challenging behaviours. Students will promote the philosophy of inclusion in all aspects of their interactions with children, families, and the community. Please note that time will be spent in the College's demonstration child care centre as part of the series of block placements. Opportunities to work with a variety of age groups across the series of field placement courses will be provided where possible.
Prerequisite(s): EE2180, EE2255, FW2600

FW2710 - Supervised Field Placement Experience III
The purpose of this supervised field placement experience is to provide students with experience in administrative practices and procedures at an approved setting in a community-based agency/organization. Through classroom and individual assessments, instructor(s) will work with students to provide opportunity for a four-week placement to express leadership skills and work independently in an agency that provides administrative experiences such as the following: financial management, staff and public relations, program development, organization and government structures and functions, and facility operations. Students review previous placement experiences, types of placement, and placement documentation issues and concerns. Students may be placed in a variety of community agencies such as long-term care facilities, hospitals, youth serving agencies, government, provincial sport and recreation departments, and municipal recreation departments. The instructor supervises and evaluates the student's progress in conjunction with a field supervisor (who is normally an employee in the placement agency).
Prerequisite(s): FW1711, RS1450, Valid First Aid/CPR Certificate, Clear Certificate of Conduct must be dated no more than 2 months prior to the start of the semester, Vulnerable Sector Check, Updated Immunization Record, Current Resume
Co-requisite(s): RS1320

FW2711 - Supervised Field Placement Experience IV
The purpose of this final supervised field placement is to provide second-year students the experience in administrative practices and procedures at an approved setting in a community-based agency/organization. Through classroom and individual assessments, the instructor will work with students to provide opportunity for a four-week placement to express leadership skills and work independently in an agency that may provide the following administrative experiences: financial management, staff and public relations, program development, organizational administration and facility management and operations. Students will be expected to show a high level of management and leadership skills throughout this placement and work independently throughout the four-week placement. Students will review previous placement experiences, types of placement and placement documentation issues and concerns. Students may be placed in a variety of community agencies such as long-term care facilities, hospitals, youth-serving agencies, government, provincial sport and recreation departments and municipal recreation departments. The instructor supervises and evaluates the student's progress in conjunction with a field supervisor (who is normally an employee in the placement agency).
Prerequisite(s): FW2710, RS1320, Documents required: Valid First Aid/CPR Certificate, Clear Certificate of Conduct (must be dated no more 2 months prior to the start of the semester, Vulnerable Sector Check, Updated Immunization Record, Current Resume
Co-requisite(s): MN1410

FW2800 - Field Placement
Students will work in the graphics industry under the direct supervision of an employer, with their progress being monitored and evaluated by faculty in the Graphics programs. The supervised field placement is an integral part of the total curriculum in the Graphic Design and Graphic Communications programs, and provides students with direct experience in the industry that can lead to a wide range of professional practice. (Please note: under extenuating circumstances wherein an external field placement is not secured, an equivalent industry-related project approved and supervised by the instructor is acceptable.)
Prerequisite(s): Successful completion of all program courses in Semesters 1 to 5, FW1180

FW2801 - Field Placement Reflection
Students will reflect upon and evaluate their field placement experience. Based upon this reflection and evaluation, students will have an opportunity to revisit skill-sets and areas for development.
Prerequisite(s): FW2800 or FW1451

FW2810 - Field Placement
Students will work in the graphics industry under the direct supervision of an employer, with their progress being monitored and evaluated by faculty in the Graphics programs. The supervised field placement is an integral part of the total curriculum in the Graphic Design and Graphic Communications programs, and provides students with direct experience in the industry that can lead to a wide range of professional practice. (Please note: under extenuating circumstances wherein an external field placement is not secured, an equivalent industry-related project approved and supervised by the instructor is acceptable.)
Prerequisite(s): Successful completion of all program courses in Semesters 1 to 5, FW1180

FW2811 - Field Placement Reflection
Students will reflect upon and evaluate their field placement experience. Based upon this reflection and evaluation, students will have an opportunity to revisit skill-sets and areas for development.
Prerequisite(s): FW2810

GA1120 - Typography I
Students will be introduced to the history of the graphics industry and will study the historical evolution of typography from its beginning to its application in today's industry.

GA1121 - Typography II
Students will address contemporary issues in typography as they apply to print, web, and mobile devices. Students will develop design solutions for common typographic issues such as readability, legibility, navigation and coherence.
Prerequisite(s): GA1120

GA1130 - Digital Design Fundamentals
Students are introduced to digital design tools including vector and bitmap image manipulation, as well as digital layout fundamentals. Students will also learn to work independently on basic creative tasks using digital tools.

GA1140 - Vector Graphics
Students will gain an introduction to the basics of Vector Graphics used on dual platforms within graphic communications.

GA1170 - Graphics Problem Solving
Students will gain an understanding of practical and relevant mathematics specific to disciplines within the graphics industry and learn to directly apply relevant mathematics concepts. Students will learn about topics which emphasize problem-solving skills that apply practically to printing and design.

GA1180 - Graphic Design History
Students will gain a clear understanding of the history of the graphics industry. Students will study the historical evolution of typography from its beginning to its application in today's industry.
Co-requisite(s): GA1121

GA1220 - Color Management
Students will learn to effectively manage and use color in a digital graphic arts environment. Students will learn effective color management principles on both Apple MacIntosh and PC platforms, and cover color systems and translations between color gamuts in detail. Students will also gain a clear understanding of the elements and principles of color theory, and how color can be used to create more effective images for the graphics industry.
Prerequisite(s): GA1170

GA1230 - Finishing & Bindery I
Students will gain an understanding of the background and methods used for finishing and bindery and how they apply to graphic communications.

GA1231 - Finishing & Bindery II
Students will gain an understanding of the advanced methods used for finishing and bindery as it applies to graphic communications.
Prerequisite(s): GA1170, GA1230

GA1320 - Digital Printing I
Students will receive hands-on skill development in printing to digital devices. Students are required to become proficient in the skill areas involved in providing short run, full-color documents and on-demand printing.
GA1321 - Digital Printing II
Students will gain an understanding of the principles of digital practices. The focus will be on advanced machine operation and quality control.
Prerequisite(s): GA1320, GA1421

GA1350 - Motion I
Students will be introduced to the principles and elements of motion design through studio practices at beginning and advanced levels. Students will be exposed to the first phase, "type in motion", which emphasizes the relationship between typography principles and animation fundamentals. Students will then gain knowledge during the second phase when an advanced applied approach to the language and principles of motion is explored. Students will also develop skills in digital creativity throughout this course.

GA1351 - Motion II
Students will expand upon the principles and elements of motion design studied in Motion I. Students will continue with studio lessons and practices at an advanced level and implement a practical demonstrable skill set in motion graphics.
Prerequisite(s): GA1350

GA1420 - Digital Page Layout I
Students will learn the basic technique of assembling visual elements.

GA1421 - Digital Page Layout II
Students will learn electronic page assembly using the techniques of page layout software on the computer. Students will learn about the flexibility of the page layout software as it applies to production for graphic communications.
Prerequisite(s): GA1420
Co-requisite(s): GA2570

GA1430 - Page Composition I
Students will gain an understanding of basic page composition as it applies to the graphics industry. Students will explore topics which emphasize developing digital layout skills using industry-standard software tools, while exploring different types of graphic design projects for traditional and digital printing processes.

GA1431 - Page Composition II
Students will gain an understanding of intermediate page composition as it applies to the graphics industry by working on long document design and production. Students are exposed to topics which emphasize developing digital layout skills while using industry-standard software tools, and exploring different types of graphic design projects for traditional and digital printing processes.
Prerequisite(s): GA1430

GA1470 - Web Processes
Students will be introduced to the basic skills in web processes. Students will be required to collect and process data from web-based applications, and this collected data will be processed and managed through software applications.

GA1520 - Image Manipulation I
Students will gain foundational skills required to use equipment and software to record, store, and manipulate digital images. Students will also gain an understanding of the hardware and skills required for the graphics industry.
Prerequisite(s): GA1170

GA1521 - Image Manipulation II
Students will gain advanced skills required to use equipment and software to record, store, and manipulate digital images. Students will also gain an advanced understanding of the hardware and skills required for the graphics industry.
Prerequisite(s): GA1170, GA1520

GA1620 - Offset Printing I
Students will learn the basic operation of small offset duplicators.

GA1621 - Offset Printing II
Students will apply the principles and practices of the offset press.
Prerequisite(s): GA1620

GA1640 - Illustration I
Students will be introduced to the basics of illustration as it is used in the graphics industry, and will develop traditional and digital illustration skills. Observation and experimentation with current traditional and digital graphic communications drawing tools, and an emphasis on both print- and screen- based graphic design projects are the focus of this course.

GA1641 - Illustration II
Students will further develop their illustration skills using vector-based drawing software current in the graphics industry. An emphasis will be placed on complex projects that incorporate vector and bitmap illustration, as well as typographic and layout skills.
Prerequisite(s): GA1640, GA1120

GA1740 - Textiles Graphics & Imaging I
Students will gain an understanding of the techniques and methods of transferring digital images to a variety of textile products. The emphasis will be on creation, output, and production of graphic images.
Prerequisite(s): GA1140, GA1420

GA1741 - Textiles Graphics & Imaging II
Students will gain advanced computer and production skills in the program area. Students will focus on the development of professional skills acquired through a selection of self-directed projects.
Prerequisite(s): GA1740

GA1750 - Display Graphics & Assembly I
Students will be introduced to the techniques and methods of applying digital images to a variety of materials used in the sign and display advertising industry. Emphasis will be on creation, output and assembly of graphic images.
Prerequisite(s): GA1140, GA1421

GA1751 - Display Graphics & Assembly II
Students will gain advanced skills in display graphics and assembly. Student focus will be on equipment maintenance, team building, and productivity.
Prerequisite(s): GA1750

GA1880 - Business Practices
Students will develop an understanding of common business practices in the graphics industry. Students will be introduced to the business requirements of freelance graphic design work, including pricing, estimating, specification-writing, subcontracting, contract and copyright law, time management, taxation and self-promotion.

GA1890 - Business Practices
Students will develop their understanding of common business practices in graphic communications. Students will focus specifically on the business requirements of graphic communication work, including pricing, estimating, specification-writing, subcontracting, contract and copyright law, time management, taxation and promotion.

GA2320 - Digital Printing III
Students will gain the skills required to ensure the equipment is functioning to equipment manufacturers' specifications. Students will focus on efficient machine operation and maintenance.
Prerequisite(s): GA1321

GA2350 - Motion III
Students will be introduced to the principles and elements of motion design through studio practices at beginning and advanced levels. Students will be exposed to the first phase, "type in motion", which emphasizes the relationship between typography principles and animation fundamentals. Students will then gain knowledge during the second phase when an advanced applied approach to the language and principles of motion is explored. Students will also develop skills in digital creativity throughout this course.
Prerequisite(s): GA1351

GA2380 - Production for Designers
Students will receive a basic overview of production methods and equipment used in the graphics industry. After completion of this course, students will have an understanding of the equipment with supervised operation.
Prerequisite(s): GA1170, GA1431, GA1641

GA2420 - Digital Page Layout III
Students will learn the techniques of page layout using advanced electronic page assembly software on the computer. Students will be working with advanced features of the software plus the exploration of different types of software for page layout. Students will also explore and develop electronic documents that will be published to mobile devices.
Prerequisite(s): GA1421, GA2570

GA2430 - Page Composition III
Students will gain an understanding of advanced layout as it applies to the graphics industry by working on electronic document design and production. Students will explore topics which emphasize enhancing digital layout skills while using industry-standard software tools, and while exploring different types of graphic design projects for screen-based documents.
Prerequisite(s): GA1431

GA2570 - Production Workflow
Students will gain the skills required to develop workflow methods while maintaining quality control. Students will develop estimate sheets, quotation sheets, job dockets, and a tracking system while using computer software and workflow devices developed by the student.

GA2630 - Offset Printing III
Students will learn to apply advanced principles and practices to the offset press. Focus will be on close register and multiple pass jobs while maintaining quality control standards.
Prerequisite(s): GA1621

GA2640 - Illustration III
Students will further develop their illustration skills using vector-based and bitmap-based drawing software current in the graphics industry. Students will be working on advanced projects that incorporate vector-based and bitmap-based illustration, typographic and layout skills for both print and screen-based (static and motion-based) graphic design projects.
Prerequisite(s): GA1641

GA2720 - Design Management Identity
Students will gain advanced understanding of and experience with managing and developing complex identity systems for the private, governmental and non-profit sectors.
Prerequisite(s): MR1340, VA1231

GA2750 - Advanced Graphics Imaging
Students are required to research new technologies in graphics imaging and will choose to either develop their research or merge the data with current imaging methods. After a combination of lectures, students will conduct and document a self-study exercise which includes ongoing consultations with the instructor. Based on their research, each student will complete three projects and will present their findings to faculty and the remainder of the class.
Prerequisite(s): GA1740, GA1750, GA2420, GA1321, GA1520

GD1120 - Storytelling in Games I •
The game industry is comprised of many artistic and technical disciplines. As games evolve, storytelling is becoming a leading factor in the development of an immersive and engaging gaming experience. Like movies and books, games support much of the common literary and cinematic forms of narrative. Games provide the opportunity to take these storytelling tools deeper through interactivity and involving the player as an active member of the storytelling experience. Students will learn the influence classic storytelling has in games and examine the modern day narrative processes and experiences that entertain gamers today.

GD1130 - Game Design Theory •
Games and the concept of play are an important part of human culture from the prehistoric age through modern times. They serve purposes such as teaching basic survival skills, provide engaging entertainment, and promote education, health, and fitness. Effective game design determines the purposes that each game will serve, and how audiences will respond through the act of play. This course will explore how games influence culture, past and present, discuss the principles of basic game design, and examine the psychological, and sociological aspects of games.

GD1140 - Serious Games Theory •
Inspiring young minds to learn, exploring the depths of the ocean and outer space, saving lives, increasing personal wellness: these are examples of areas where games go beyond pure entertainment and expand into education and training for people of all ages and roles in society. Students will explore the history, key designers, industry, and career opportunities of serious games. Various types and categories of serious games will be analyzed and discussed. Games for education, vocational training, simulation, health, and wellness, as well as art games, will be explored in more depth.

GD1150 - Game & Level Design I
Game and Level Design I introduces students to the basic practices of creating games through procedural design practices. From the stages of conceptualizing a game idea to delivering a fully functional game, students will explore the structured elements of making games, create game design documentation, prototype game concepts, and playtest a game's functionality. Game and level design practices will be applied to developing original 2D digital games with custom art and audio assets.
Prerequisite(s): GD1130
Co-requisite(s): GD1160, GD1170

GD1160 - Art for Games I
This course covers traditional and digital concept art for games. Students will also be introduced to skills and techniques for creating 2D game art and pixel art. Participation in critical analysis and discussion provides feedback for improving work.
Prerequisite(s): VA1120, VA1110
Co-requisite(s): GD1150

GD1170 - Sound Design for Games
Sound is an important element that helps bring a game to life, communicate with the player, and deepen the immersive experience. Building an effective soundscape for a game is a creative process that involves several areas of focus such as sound effects, ambience, character dialogue, and music. Each one of these elements blend together to create a game atmosphere which might provide interactive feedback to the player, or pull them into an emotional, audible world. Students will be introduced to, and practice, the process of creating and editing sounds for implementation into game projects.
Co-requisite(s): GD1150

GD1180 - Game Industry Professionalism
Professional behaviour is important to having a successful career in the game industry, including interpersonal and online interactions. Students will learn about the uniquely casual yet intense workplace environment of game studios. This course covers topics such as teamwork, diversity, conflict resolution, and attitudes for success in the game industry.

GD1600 - Business of Game Development
The game industry has grown to be a major economic force in the global market. It is an exciting time for start-up game companies and large studios alike. Accessibility to game engines and tools, and an enormous player base on a variety of platforms has lowered barriers to entry into the game industry. This course will explore elements of business for game developers with examples pertaining to the game industry. Items such as trends, game pitches, intellectual property, and marketing will be covered.
Prerequisite(s): GD1150

GD2110 - Game & Level Design II
Casual and serious games are popular genres in game design. Easy-to-play but difficult-to-master games are what defines a casual game while serious games can offer a player more than casual entertainment, providing educational and informational experiences. Students will examine and discuss various types of casual and serious games and apply game design practices to create an original casual game as well as develop a serious game based on task-based team development.
Prerequisite(s): GD1150, GD1140

GD2120 - Art for Games II
This course focuses on the design and creation of 2D art and animation for games in more depth. The basics of 3D modelling and texturing for game art will be introduced. Participation in critical analysis and discussion provides feedback for improving work.
Prerequisite(s): GD1160
Co-requisite(s): GD2110

GD2130 - Storytelling in Games II
Creative writing skills are an essential element of storytelling in games. Through developed story arcs, deep characters, and meaningful writing, games can provide unique narrative experiences that go beyond traditional writing by incorporating the element of choice. Choice driven stories allow participants to feel a sense of control and freedom over how their experience will unfold. In this course, students will utilize writing fundamentals to engage in practices of creative writing, detailed character development, and create an original story-based game featuring branching narrative.
Prerequisite(s): GD1120
Co-requisite(s): GD2110

GD2140 - Game & Level Design III
Good level design can draw a player into an immersive game experience. 3D level design reflect how people assess the space around them in the real world. By creating levels that deliver a sense of believability, based on perspective, games can be created that provide deeper engagement for the player. Multiplayer levels offer a sense of collaboration, competition, and a community element to game play. In this course, students will be introduced to early 3D game and level design practices, and become familiar with using a 3D level editor to build basic, multiplayer game levels.
Prerequisite(s): GD2110
Co-requisite(s): GD2150, GD2160

GD2150 - Art for Games III
As a continuation of Art for Games, this course will focus on research and design practices for a specific theme. Students will build skills in 3D modelling and texturing for game art asset creation for implementation into 3D game levels. Participation in critical analysis and discussion provides feedback for improving work.
Prerequisite(s): GD2120
Co-requisite(s): GD2140

GD2160 - QA & Playtesting for Games
This course explores quality assurance and testing for the game industry from a professional viewpoint. Test planning, documentation and bug reporting are taught and practiced as a playtesting feedback mechanism for Game and Level Design III. Careers in quality assurance and testing are also covered.
Co-requisite(s): GD2140

GD3100 - Game & Level Design IV
Interactions within a level allow a player to engage with the game through active participation. Interaction design can introduce diversity in navigational exploration and involve deeper elements of challenge. By combining basic game mechanics in a level with original asset implementation, students can create unique, interactive game experiences. Elements such as physics and particles can add to the theme and atmosphere of the level. In this course, students will continue the practices of 3D level editing to begin creating a single player game experience.
Prerequisite(s): GD2140
Co-requisite(s): GD3110, GD3130

GD3110 - Art for Games IV
As a continuation of the Art for Games series, this course covers advanced art asset creation for implementation into 3D game levels including environments, props, particles, and effects. Students will also design and create game props with basic animation. Participation in critical analysis and discussion provides feedback for improving work.
Prerequisite(s): GD2150
Co-requisite(s): GD3100, GD3120

GD3120 - 3D Game Character Design
This course covers 3D game character design including concept, modelling, texturing, rigging, posing, introduction to animation, and presentation. Tools and techniques are utilized with a focus on application for game art. Participation in advanced critical analysis and discussion provides feedback for improvement of work.
Prerequisite(s): VA1140
Co-requisite(s): GD3110

GD3130 - Visual Narrative for Games
A picture is worth a thousand words and game stories can be intensified through the use of visual narratives. With the basic nature of human gestures and expressions, storytelling can come to life with dramatic influence. Students will examine the historical relevance of cinematography as it relates to game design. Incorporating visual elements into games and media begins with the preproduction process of storyboards and animatic design. Students will apply these preproduction processes and utilize video editing software to create animated storyboards as well as use in-game camera systems to create basic scripted events in a game level.
Prerequisite(s): GD2130
Co-requisite(s): GD3100

GD3140 - Game & Level Design V
A game experience can be improved when the action and environment facilitate good storytelling. The game world along with interface elements provide a canvas for delivering a game story. Revision and refinement are important processes when seeing a project through to completion. This course will focus on the completion of student single player levels from the previous Game and Level Design course. Through playtesting, revision, and refinement, students will complete and deliver a short single player game experience.
Prerequisite(s): GD3100
Co-requisite(s): GD3170, GD3150

GD3150 - Interactive Storytelling
Games as storytelling devices is a popular and growing trend in game development, and drawing attention to the narrative possibilities of interactive entertainment. Storytelling is an important element of game design that can deliver a narrative context to the events and actions of game play. Environments and interfaces also have the power to influence a story experience and can be used to guide a player throughout the events of the game. In this course, students will develop in-game artifacts and utilize various literary, auditory, and visual forms of interactive narrative, providing deeper storytelling experiences to compliment game play and level design.
Prerequisite(s): GD3130
Co-requisite(s): GD3140

GD3160 - Portfolio for the Game Industry
Students will research current roles and opportunities within the game industry to conduct an organized, targeted job search. Refined and fully developed work samples specific to roles within the game industry will be selected and critically assessed for inclusion in a body of work. Using skills and knowledge learned in Visual Narrative for Games, students will create supporting media for job application and create an online portfolio to present samples and media in an industry standard convention.
Prerequisite(s): GD3130
Co-requisite(s): GD3170, GD3140

GD3170 - Art for Games V
This course is a continuation of developing game art assets for 3D game levels, including interface and artifact design, level décor, and polishing elements to bring a high-quality project to completion. Students will focus heavily on art production for the project combined with Game and Level Design V. Participation in advanced critical analysis and discussion provides feedback for improving work.
Prerequisite(s): GD3110
Co-requisite(s): GD3140

GD3180 - Game Design Capstone Project
The capstone project enables the learner completing a Video Game Art & Design diploma, in the final semester, to demonstrate the application of skills and knowledge developed throughout the program. This course incorporates comprehensive project development within the college or industry.
Prerequisite(s): GD3140, GD3170, GD1180

GE1240 - Geology for Geomatics/Surveying ET
This is an introductory course in physical geology and exploration geophysics designed for students in the Geomatics/Surveying Engineering Technology program. The course will begin with an introduction to physical geology and continue with an overview of tectonics and structure and will include weathering and erosion. The second component will be an overview of geophysical exploration tools. Laboratory work will relate directly to in class lectures.

GE1300 - Forest Soils
This course is designed to expose students to the basic concepts of soil science, soil sampling and analysis, and soil classification. These concepts are then utilized to allow the student to investigate forest soils in detail and to investigate the role of forest soils in forest site classification and productivity and the impact that forest practices have on soil properties and its implication to forest management.
Prerequisite(s): EY2210
Co-requisite(s): EY2211

GE1310 - Soil Fundamentals
This course is designed to expose students to the basic concepts of soil science, soil sampling and analysis, and soil classification.

GE1420 - Physical Environments
This is an introductory course designed to provide students with basic knowledge in both terrestrial and aquatic environments.

GE1502 - Petroleum Geology I
This course is a continuation of Physical Geology. It covers geologic processes occurring in and on the earth, structural geology and geological resources. Laboratory work includes the study of topographic maps and profiles, earthquakes and tectonics, construction of sub-surface geology maps and sections and field trips to places of geologic interest on the Avalon Peninsula.
Prerequisite(s): GE1520

GE1520 - Physical Geology
This is an introductory course in physical geology designed for students in the Petroleum program. It covers origin, distribution and deformation of igneous, metamorphic, and sedimentary rocks. Laboratory work includes the study of minerals and rocks with emphasis on identification and classification of sedimentary rocks.

GE2510 - Petroleum Geology II
This course covers the generation of oil/gas and the movement of oil/gas from source to reservoir. Further, the course will look at the exploration procedure and the methods of exploration for oil and gas both geological and geophysical. The main geophysical exploration tool "seismic exploration" will be looked at in detail.
Prerequisite(s): CH2330, GE1502
Co-requisite(s): PM2130

GM1105 - Aircraft Plumbing (S)
This S course will enable the student to identify and manufacture the different types of pressure and vacuum lines and hoses used on the various aircraft systems.
Prerequisite(s): GM1120

GM1120 - General Maintenance Procedures (M, E, S)
This M, E, and S course is to inform the student of the responsibilities and safety requirements when working in an aircraft environment. This course will also enable the student to select materials and instructions so they can successfully complete a maintenance task.

GM1130 - Aircraft Servicing (M,E)
This M and E course will enable the student to work safely and efficiently in an aviation maintenance environment. This is to enable students to position aircraft, select materials and instructions that will provide for the safe completion of a maintenance task. Students will perform servicing checks on both fixed and rotary wing aircraft.
Prerequisite(s): GM1120

GM1140 - Standard Work Shop Practices (M,E,S)
This M, E, and S course is designed for students entering into the Aviation Programs. This course enables the student to obtain the knowledge and skills required to select and use hand and power tools, precision measuring instruments, shop equipment and the knowledge to be able to identify different types of aircraft hardware.

GM1230 - Human Factors EASA Module 9
This course will provide the student with the knowledge of human performance in aviation maintenance. This course will also examine various models and theories that are attributable to human errors and review strategies to help either manage or avoid these errors to prevent or reduce the risk of accidents. The course is designed to meet all the requirements for EASA module 9A at the B1 level.

GM1320 - Aircraft Weight and Balance (M, E)
This M and E course is designed to provide a student with an in depth knowledge of Aircraft Weight and Balance. Students will be required to differentiate between fixed wing and rotary wing weight and balance, as well as longitudinal and lateral centre of gravity. Students will interpret manufacturers' specifications and procedures for weighing aircraft and compute a weight and balance report.
Prerequisite(s): GM1120, GM1130

GM1340 - EASA Module 6 Top Up
This course is designed to cover items from EASA module 6 that were not contained in the Aircraft Maintenance Engineering Technician program. The students will receive instruction in springs, bearings, transmissions, belts and pulleys, chains and sprockets.

GM1350 - EASA Module 7 (A) Top Up
This course is designed to cover items from EASA module 7A that were not contained in the Aircraft Maintenance Engineering Technician program. The students will receive instruction in the maintenance of springs, bearings, transmissions, belts and pulleys, chains and sprockets along with aircraft lubrication requirements.

GM1360 - EASA Module 6, 7 (A), 8 Refresher
This course is designed to prepare the student to write the EASA module exams for modules 6, 7A & 8 through the use of practice exercises and review lessons.

GM1420 - Non-Destructive Testing (M)
This M course is designed to provide the student with an in depth knowledge of Non-Destructive testing techniques. Materials and equipment will also be discussed.

GM1525 - Sheet Metal Fabrication (S)
This S course is designed to provide the student with the knowledge of aircraft structural fabrication and replacement. The student will utilize the knowledge and skills learned in previous aircraft structural repair courses. They will use aircraft technical drawings, follow guidelines and specifications to fabricate and replace aircraft structural component. The student will produce the certification as required by the Canadian Aviation Regulations for the completed projects.
Prerequisite(s): AF1240

GM1550 - Maintenance Regulations (M,E,S)
This M, E, S course will provide the student with the regulatory guidelines to be followed while performing maintenance on aircraft or aeronautical products as a requirement of the Canadian Aviation Regulations (CARs). Human performance in aviation maintenance will also be covered.

GM1570 - Corrosion Control (M, E, S)
This is an M, E and S course that will provide the student with the knowledge to identify various types of corrosion, the causes of corrosion and the susceptible locations of corrosion on aircraft structures. This course is designed to provide the knowledge to inspect aircraft structures for corrosion, assessment of damage, removal of corrosion, treatment of corroded areas and protection methods used to prevent or retard further deterioration of aircraft structural components.

GM1580 - Corrosion Control (S)
This S course will provide the student with the skills to inspect aircraft structures for corrosion, assess damage, remove corrosion, treat corroded areas and apply protection methods used to prevent or retard further deterioration of aircraft structures.
Co-requisite(s): GM1570

GM1600 - Structural Damage Repair and Assembly (S)
This is an advanced course in aircraft sheet metal repair that will develop the student's knowledge and skill to assess damaged structures, procure and repair scheme, and embody a certified repair that meets airworthiness requirements.
Prerequisite(s): AF1240

GM1700 - Legislation EASA Module 10
This course will provide the student with the knowledge of aviation legislation and regulatory framework for all operators in the European Union that operate under the EASA regulations. The course is designed to meet all the requirements for EASA module 10 at the B1 level.

GS1110 - Cartographic Concepts
This course will engage students in the exploration of the cartographic communication process. By introducing concepts and processes that are central to cartography, the course will enable the student to build a broad cartographic foundation for concurrent and subsequent studies. Through a series of lectures, exercises, deliverables, and presentations the students will compute and maintain geographic accuracy while encoding real world phenomena using specific cartographic communication concepts.

GS1210 - GIS Database Principles
This course presents principles of database processing in a GIS environment; lab exercises and project work provide opportunities for students to develop skills in implementing and managing databases. Students will use Database Software and Structured Query Language (SQL) to build databases and manipulate data in preparation for future work in data processing and GIS analysis.

GS1320 - Principles of GIS
This course will enable students to explore the principles and fundamental concepts and types of Geographic Information Systems (GIS) and apply them in simple projects. Students will be introduced to the five main technical components of a GIS: input, storage, pre-processing, analysis and output using both the raster and vector spatial data models. A series of laboratory and mini-project exercises provide students with hands-on experience using current software applications.

GS1410 - Problem Solving and Programming
Geomatics software systems include programming capabilities to enable technical users to build specialized applications to process data and automate repetitive tasks. Using these facilities, a few well-placed lines of code can save days of tedium or can accomplish tasks that would otherwise not be feasible. In this course students will prepare to utilize these capabilities by: (1) developing problem solving and algorithm design skills, (2) implementing solutions in a high-level programming language. This course also serves as the foundation to the other programming and technical courses covered later in the GIS specialist program.

GS1510 - Remote Sensing and Image Analysis
This course introduces detection, delineation, interpretation, and measurement of physical/biological/cultural features on remotely sensed imagery. Students will acquire an understanding of critical remote sensing techniques and their application in a variety of sectors.

GS1610 - Surveying and Mapping

This course emphasizes geomatics principles as they apply to spatial databases. Building on the skill sets associated with measuring for maps and land type surveys, students will develop expertise in the use of equipment such as: total stations, GPS receivers, and data loggers to locate features and attach the attribute information. Through project work in the lab and field, students will gain practical experience in equipment use, maintenance and troubleshooting. Once collected, features will be placed in a GIS / Land Information System and appended to existing digital maps and plans. The resulting maps and GIS databases will be used to solve spatial queries related to land parcels.

GS2100 - Open Source GIS and Data Management Tools

This course will provide an introduction to open source tools for spatial and non-spatial data management. Particular emphasis will be on data summary and presentation of results. Students will use open source GIS software to reproduce commercial off the shelf software techniques to solve GIS problems and manage GIS data. Python and the Pandas Module will be used for data summary and manipulation. Pandas is a core module in the Data Scientist's tool box and has numerous applications for GIS.

GS2110 - Customization of GIS Applications

As GIS software packages become more sophisticated, there is a greater need for GIS specialists who not only perform GIS analyses, but also are highly skilled in automating GIS applications, and workflows. Automation may be done within the application itself, or by developing stand-alone programs that integrate GIS capabilities. This course introduces students to the basics of designing programs to facilitate the repletion of tasks and to perform unattended GIS workflows. Students will also learn how to develop customized GIS applications to meet specific user needs and how to link these applications to other programs.
Prerequisite(s): GS1410

GS2210 - Database Design and Development

This course builds on GIS Database Principles to introduce advanced relational database topics that are increasingly important for GIS and mapping professionals. Through application of the basic principles of relational database design, students will learn how to design a model of the users' view of their data and express it as an entity-relationship model. Core concepts of database development will also be explored, including normalizing tables, establishing appropriate relationships between data, establishing metadata, determining domains, and capturing business rules. The course includes topics in data processing with SQL and procedural extensions in industry-standard client server environments. The course also provides a detailed exploration of the Geodatabase.
Prerequisite(s): GS1210

GS2310 - Project Planning and Management

The skills developed in this course will help students select, design, build, and implement a complex GIS application in response to an industry defined problem, using a business project management model. The course will assist students in negotiating the complexities of project management unique to this sector, as well as issues such as client relations, time management and scheduling, costing and budgeting, data acquisition, negotiating intellectual property rights and copyrights and managing teamwork and interactions. Project design principles and cartographic standards, together with guest lectures, will provide a foundation for the iterative process of planning, establishing schedules, and writing a GIS project proposal. Project Planning and Management will act as an introduction to the major GIS project in the final semester, and develops a skill set critical to its success.
Prerequisite(s): GS1110, GS1210, GS1320, GS1410, GS1510, GS2512, GS2100

GS2410 - Spatial Analysis and Applications

This course will provide the opportunity to conduct advanced GIS analysis applications. The course is designed to deliver competencies related to spatial analysis techniques available within a GIS environment, and within the context of a variety of application areas. In addition, this course will apply methods for determining appropriate use of GIS within organizations. Conceptual material presented in lectures will be placed in an applied context through lab exercises and mini projects designed to strengthen practical understanding and awareness of GIS methods and methodologies.
Prerequisite(s): GS1320

GS2512 - Spatial Statistics

Following a review of basic statistics, this course introduces the student to the fundamentals of geostatistical methods relevant to geographic data and spatial analysis. The course begins with a brief review of descriptive and inferential statistics and their application to geographic data as a precursor to conducting applied statistical analysis focusing on spatial distribution of data, trend analysis, geographically weighted regression, machine learning techniques, CART analysis, and data mining.

GS2710 - Web GIS Development

This course introduces GIS students to the broad possibilities of the single greatest impetus for change in the GIS industry - the Internet. Web GIS Development provides an overview, and develops a conceptual understanding of, existing Web-based applications for GIS and the innovations that will affect the shape of the industry's future. Students will create web GIS sites using the built-in capabilities of ArcGIS Server, and create applications using the ArcGIS Online Platform. Planning and development stages for a GIS website will also be covered, with practical work in accessing, displaying, querying, and analyzing GIS data over the Internet.
Prerequisite(s): GS1320

GS2911 - Advanced Remote Sensing
Airborne/space borne imagery will be analyzed using current imaging and GIS software(s). Increasing utility of the data from space-borne sensors will also be conducted, and in parallel, students will perform advanced fully automated (as well as semi-automated) data extraction.
Prerequisite(s): GS1510

GS3110 - Advanced Topics in Geomatics
Advanced Topics in Geomatics is designed to ensure that students are exposed to emerging issues and trends in the field as well as the most current technologies. Course topics will be selected through the input of advisory committee members, departmental faculty and students as well as through assessment of the professional literature and publications. Activities will include guest lectures, demonstrations of new technologies, applications and software, workshops, student presentations, field trips and, where possible, attendance at an external conference or workshop. The course is an important transition for students as they move from program graduates to entry level practitioners, helping them to begin professional networking, develop a career path and explore avenues for future professional development and areas of specializations.
Prerequisite(s): GS1320

GS3210 - GIS Capstone Project
This course provides the student with an opportunity to finalize the design, development and implementation of a GIS project initiated in the Project Planning and Management course. This team-based project will address a variety of GIS issues and use mapping techniques to promote the research, development, testing, and analyzing of real-world information in a real world environment. Students will be challenged to assign responsibilities, create and maintain satisfactory working relationships with the client, accept feedback, meet project deadlines, manage the production of deliverables to industry standard, and formally present their findings. The team consists of students, instructors, and industry sponsors.
Prerequisite(s): GS2110, GS2210, GS2410, GS2310, GS2710, GS2911, GS3410

GS3410 - Spatial Database Applications
Through labs, mini-projects, and a collaborative class major project, students will gain competencies related to the functionalities and applications of ESRI ArcGIS geodatabases. This course will provide students with an extensive knowledge-base and skillset necessary to conduct high-level analysis in research and industry projects.
Prerequisite(s): GS1320

HG1110 - Applied Science for Allied Health
In this course, principles of chemistry, biochemistry, and physics are studied as they apply to the practice and study of several allied health sciences, including but not limited to respiratory therapy, medical laboratory technology, and medical radiography. Major topics include bonding, matter, solutions, equilibrium, and electrochemistry. The fundamental concepts covered in this course will form the basis for further studies in allied health sciences.
Co-requisite(s): MA1700

HG1300 - Professional Practice
This course provides an awareness of key professional aspects of health care settings as expected in a rapidly evolving clinical environment. Before beginning a clinical rotation, students must be cognizant of the personal, operational, and behavioral issues affecting the clinical practicum and the broader health care environment, which involves both patients and other health care professionals. This course will allow students an opportunity to develop basic skills related to health care professionalism, interprofessional collaboration, and teamwork in the health care setting before beginning their first clinical rotation.
Prerequisite(s): CM2201 or CM2200

HG1500 - Working in Healthcare
Students will examine the concepts of working in healthcare with a contemporary lens. Historical aspects of the Canadian Health Care System and recent changes to the system are explored. The significance of these changes to Canadians and to the roles of employees in the field will be considered. Areas to be addressed include: health and the individual, group behaviour, management and employee decision making, conflict and negotiation, motivation, and organizational culture. Application of these concepts to related work settings provide an employee's perspective to working in a rapidly changing field.

HG1680 - Ethics in Health Care
This is an introductory course in health care ethics and workplace issues. Through course content, lectures, selected readings and student discussion, ethical theories will be examined and applied to current issues that arise in health care.

HG1681 - Ethics in Health Care
This is an introductory course in health care ethics, legal issues, and workplace concerns. The student will be aware of, understand, appreciate and evaluate commonly encountered ethical, legal and professional problems in the workplace. Through course content, lectures, selected readings and student discussion, ethical and legal theories will be examined, together with what constitutes professional behaviour, values and practical wisdom. These concepts will be applied to current issues related to healthcare professionals.

HM1120 - The Culinary Manager

In this course, students will become exposed to the world of the Culinary Manager, and learn the skills required to join this growing profession. More than just cooking, culinary managers must be able to manage employees, understand legislation and accommodate the special requirements of their customers.

HM1140 - Culinary Tourism Business

This course is focused on the relationships between the cultural and culinary sectors of the tourism industry. During the course, students will explore the opportunities that are created when these two sectors come together to create partnerships. While participating in this course, students will learn how to successfully develop partnerships in order to build a culinary tourism product.

HM1160 - Culinary Tourism Experiences

Students will find their passion for Culinary Tourism through participating in workshops and living lab excursions, as well as culinary events like Roots Rants and Roars and Eat The Hill. Students will have the opportunity to work and learn from local chefs, sommeliers, hunters and fisherpersons which will provide the students with a unique cultural outlook on food and its history.

HM1260 - The Business of Food

Foodservice operations are complex businesses. In this course, students will learn the skills of cost control, food costing, and how to create profitable menus. Using a combination of classroom and culinary lab time, students will be able to put their knowledge and skills into practice.

HM1330 - Creating Cultural Menus

This course involves researching the history and culture of a region to identify culturally significant cuisine. The student will identify culturally significant local ingredients and use them to create dishes and cultural menus.

HM2150 - Food & Beverage Management

This course introduces the student to the management functions necessary to successfully operate a food and/or beverage facility in the hospitality industry.

HM2160 - Cost Control

This is an introductory course in the concepts of cost control. The course deals specifically with the food and beverage control skills and techniques, labour cost control and staff scheduling as practiced in food service.
Prerequisite(s): MA1160

HM2210 - Tourism Marketing

This course is an introduction to the concepts and techniques of hospitality and tourism marketing. Students study the history of marketing, government regulations, market segmentation, the marketing mix, service marketing, destination marketing, and marketing research techniques.

HM2280 - Supervision

This course explores practical and effective management skills for the tourism workplace. Emphasis is placed on the technical and human relations skills considered essential for today's managers.

HM2420 - Facilities Management

This course provides tourism and hospitality students with information they need to know to manage the physical building and grounds of a tourism or hospitality property and work effectively with the engineering and maintenance department.

HM2521 - Events Management

This course is designed to give students an introduction to developing, planning and executing events. The course examines practical information on all aspects of creating, organizing and managing events, such as selecting the event; choosing the venue; preparing and managing budgets and promotions; scheduling and staffing; coordinating programs and entertainment, food and beverage, décor, technology, media and security; risk management and evaluating after the event. The economic impact of events will also be discussed.

HN1100 - Industrial Relations •

This is an introductory course in the theory and practice of industrial relations in Canada. The student will explore industrial relations models, the structure of the Canadian Labour movement, the process involved in organizing a union and establishing union recognition, the collective bargaining process and the administration of a collective agreement, the various dispute resolution methods and industrial dispute tactics, and the union impact on compensation, productivity, and management and strategic choice. Theoretical learning will be reinforced with case studies and research of current industrial relations topics.

HN1200 - Human Resource Management •

This is an introductory course in the theory and practice of human resource management which affects every aspect of the workplace. The course focuses on the fundamentals of human resource management in the Canadian milieu.

HN1230 - Human Resource Management I •
This is an introductory course in the fundamental principles and practices of strategic human resource management today. The student will explore the law and human resource management, human resource planning, job analysis and job design, recruitment, selection, socialization and orientation, training, development and career planning. Theoretical learning will be reinforced with case studies and current article reviews.

HN1240 - Human Resource Management II •
This is an introductory course in the fundamental principles and practices of strategic human resource management. The student will explore performance management, direct compensation, indirect compensation (employee benefits and services), communication and employee relations, workplace safety and occupational health, industrial relations framework, workforce diversity and international human resource management, and human resource metrics. Theoretical learning will be reinforced with case studies and current article reviews.
Prerequisite(s): HN1230

HN1400 - Occupational Health and Safety •
This is an introductory course in the fundamental principles and practices of occupational health and safety (OH&S). A solid understanding of OH&S issues, legislation and programs is essential to create an effective OH&S program. The student will explore development of OH&S; costs of accidents, injuries and workplace illnesses; legislation and regulation; hazards and agents; hazard recognition and assessment; workplace compensation; accident investigation; and OH&S program management. Students will have the opportunity to apply various OH&S practices and techniques using case studies and simulations and to obtain WHMIS certification.

HN2100 - Collective Agreement Administration •
This course will examine in depth the issues involved in the interpretation, application and administration of a collective agreement. The student will explore public service collective bargaining, regulating the collective agreement, collective agreement administration, collective agreement clauses and the legal issues in interpreting and administering collective agreements. Students will have the opportunity to apply and interpret various collective agreement administration techniques, practices, and clauses using case studies and application assignments.
Prerequisite(s): HN1100

HN2110 - Dispute Resolution •
This course will explore the various types of third-party assistance available to both management and union in resolving disputes. The student will explore union management cooperation; industrial conflict/disputes; conciliation/mediation; picketing/boycotts; grievances and grievance (rights) arbitration; and alternative dispute resolution. Students will have the opportunity to apply and research various dispute resolution techniques and practices.
Prerequisite(s): HN1100, LW1210

HN2130 - Recruitment and Selection •
This course will examine in some depth the current process, issues and practices involved in the recruitment and selection function. The student will explore the staffing function, legal compliance, information sources for staffing, reliability and validity of performance predictors, recruitment, selection, staffing evaluation, and emerging trends in staffing. Students will have the opportunity to apply various staffing techniques and practices using case studies and application assignments.
Prerequisite(s): HN1240

HN2140 - Attendance and Disability Management •
This course will examine in some depth the current processes, issues and practices involved in attendance and disability management. The student will explore the various laws and regulations affecting the practice of attendance and disability management; attendance management systems/procedures; disability management programs; best practices in disability management; legal and ethical issues in disability management; disability management in a unionized environment; and attendance management and disability management policy/plan development. Students will have the opportunity to research various attendance management and disability management practices and procedures.
Prerequisite(s): HN1240, HN1400

HN2150 - Training and Development •
This course will examine in some depth the current processes, issues and practices involved in the training and development function. The students will explore: needs analysis; training design, methods and evaluation; development methods and evaluation; and emerging trends in the field. Students will have the opportunity to apply various training and development techniques and practices using case studies and application assignments.
Prerequisite(s): HN1240

HN2200 - Strategic Compensation and Benefits •
This course will explain in some depth the key issues, processes and techniques involved in planning, designing, and administering a compensation and benefits strategy. The student will explore internal alignment; external competitiveness; performance management; administration/budgeting; role of government and pay discrimination; and employee benefits. Students will have the opportunity to apply various compensation practices and techniques with case studies and application assignments.
Prerequisite(s): HN1240

HN2210 - Human Resource Planning •
This course will examine in some depth the fundamental issues, principles and practices of strategic human resource planning. The student will explore human resource strategies and plans; environmental influences/issues; staffing strategies; forecasting techniques; managing performance and employee expectations; and managing and measuring the human resource function. Theoretical learning will be reinforced with application assignments.
Prerequisite(s): HN1240

HN3110 - Current Topics in Human Resource Management and Industrial Relations •
This student-led seminar-based course will examine issues, topics and trends in the area of human resource management and industrial relations that are of recent and current concern to human resource professionals today. Students will research, develop and present a seminar/paper on selected issues/topics/trends from among the following areas explored in this course: the field/practice of human resource management; the field/practice of industrial relations; recruitment and selection; occupational health and safety; employment and labour law; collective agreement administration; attendance and disability management; compensation and benefits; human resource planning; and dispute resolution. In addition, students will have the opportunity to research and critique a current journal article or create a blog based on current topics in Human Resource Management or Industrial Relations.
Prerequisite(s): HN1100, HN1400, HN2100, HN2130, HN2140, HN2200
Co-requisite(s): HN2110, HN2210

HR1120 - Human Relations
This course is designed to create an awareness of the importance of effective interpersonal skills in personal and professional environments, and to provide an opportunity for students to learn and practice these skills. The student will examine the basic elements of interpersonal communication and practice effective communication skills in personal and professional relationships. The course emphasizes interpersonal skill development through the process of experiential learning; students will practice these skills by writing reflective essays, identifying their skill development progression and participating in role-plays, skits and presentations.

HR1300 - Communications & Human Relations •
Students will develop communication skills associated with effective human relations. Knowledge and skills will be developed in effective listening, and oral and written communications.

HR2121 - Public Relations
This course concentrates on the skills necessary to develop public relations for music business purposes. A combination of theories/concepts and practical illustrations are used to explain the application of public relations.

HR2200 - Human Relations
This course is a study of the basic principles of human relations, and the behaviour of the people in organizations as they strive to achieve both personal and organizational goals.

HR2230 - Human Relations
This course is designed to provide the learner with an introduction to the complexities of human interaction with respect to the work place. The course material will contribute to a better understanding of subject matter studied in other courses.

This basic course in human relations emphasises the role of the individual within an organization. Topics include, but are not limited to: self analysis, including attitudes, self-concept, communication style, motivations and organizational values; improving human relations, constructive self-disclosure, emotional control, positive reinforcement and first impressions; leadership and supervision, considering conflict resolution and management, prejudice, discrimination, and sexism. Learners will be required to attend and participate in weekly workshops, and submit a structured, reflective journal.

HR2410 - Professional Development
This course is designed to prepare the students for the workplace. The focus is on acquiring the skills of a successful professional employee. The students will learn how to assess and refine their own skills and to match these skills with employment opportunities.

HS1131 - Dining Room Operations
This course provides the student with an introduction to all aspects of Dining Room Operations. Students will focus on the basic principles of professional service and the standards that such service must meet or exceed. The course stresses a practical application of these food and beverage service skills. The student receives hands-on practical training in scheduled labs in the college's training dining room.

HS1171 - Winter Grow & Cook Local
Students will be introduced to basic techniques of growing your own seasonal vegetables. Students will use the skills they are acquiring in Intermediate Cultural Cuisine to prepare dishes and preserve the products they have grown.
Prerequisite(s): HS1370
Co-requisite(s): HS1361

HS1340 - Bar & Beverage Operations
This course introduces the student to the basic principles and techniques of bartending. Theory is combined with practical labs to ensure the student is given opportunity to practice the skills learned. Responsible service of alcohol and guest contact techniques are stressed.

HS1360 - Intro to Cultural Cuisine
In this course, students will build on their existing basic cooking skills, normally acquired through the completion of a recognized one-year cook program. Students will begin to apply these skills to culturally significant ingredients, dishes, and cuisines. Students are evaluated at an introductory level on each prepared dish with emphasis on presentation, flavor, taste and texture.

HS1361 - Intermed Cultural Cuisine
In this course, students will refine their skills built in HS1360 - Intro to Cultural Cuisine. Students will continue to develop their culinary repertoire while integrating culturally significant ingredients, dishes, and cuisines. Students will be evaluated at an intermediate level on each prepared dish with emphasis on presentation, flavor, taste and texture.
Prerequisite(s): HS1360

HS1370 - Fall: Grow & Cook Local
Students will be introduced to gardening tools and basic techniques while discovering the benefits of growing their own vegetables. Students will use their existing cooking skills, as well as the skills they are acquiring in Intro to Cultural Cuisine, to prepare dishes and preserve the products they have grown.
Co-requisite(s): HS1360

HS1380 - Food & Beverage Service for Chefs
This course explores communication with co-workers and industry partners as well as customers. It also focuses on the role of quality customer service while teaching the basic skills of dining room service and bartending. Students will use the skills acquired in this course to provide a consistent, high level of service to customers in the culinary tourism industry.

HS1530 - Tourism Trends & Issues
The aim of this course is to complement or supplement previous training, or to augment training in response to current trends or an unseen deficiency in student knowledge of specific topics. Emerging or new trends or issues are selected each time this course is offered. The course may be delivered though lectures or self-directed research or a combination of methods. The course will contain practical projects and applications.

HS1740 - Hotel Operations
This course introduces the student to the operations, procedures, and responsibilities of front desk and housekeeping in hotel operations. This course has been designed to include the National Occupational Standards for the Canadian Tourism industry. Students will acquire the skills and knowledge that will enable them to effectively work as Front Desk personnel and Housekeeping personnel.

HS2170 - Spring: Grow & Cook Local
Students will be introduced to basic techniques of growing seasonal vegetables. Students will use the skills they have acquired in Advanced Cultural Cuisine to prepare dishes and preserve these products.
Prerequisite(s): HS1370
Co-requisite(s): HS2360

HS2360 - Advanced Cultural Cuisine
In this course, students will refine the skills developed in HS1361 - Intermediate Cultural Cuisine. Students will create innovative dishes with a strong integration of culturally significant ingredients, dishes, and cuisines. Students will be evaluated at an advanced level on each prepared dish with emphasis on presentation, flavor, taste and texture. Students will also learn the skills to assess their own cuisine and the cuisine of their peers, and provide constructive feedback.
Prerequisite(s): HS1361

HY1105 - Art History
This course covers western art history to the twenty-first century. Students are introduced to the basic art-historical concepts with topics including major art movements and artists, the cultural and social meanings and relevance of art, and exploring period costume and jewelry while also discussing crucial terminology such as quality and beauty.

HY1110 - Canada Since 1982
Students will trace the history of Canada since the patriation of the Constitution in 1982. They will explore major political, economic, cultural and sociological changes the country has undergone since then, as well as major milestone events. In one section, they will examine major events and developments in recent Newfoundland and Labrador history.

HY1120 - Prehistory to Renaissance •
This is a survey course of the history of Western art from prehistory to the early Renaissance period. It will examine the importance of historical context in the development of visual culture and its relationship to the interpretation of art. Students will be introduced to art historical concepts and develop an understanding of works of art as aesthetic objects and cultural artifacts.

HY1130 - Renaissance to 20th Century •
This is a survey course of the history of Western art from the late Renaissance to the 20th century. It examines art historical concepts, the significance of the social, religious and political context for the development of visual culture and the interpretation of ideas in art. Students will develop skills in critical thinking, visual communication and an understanding of how art history informs contemporary art practices.

HY1200 - Craft History
This course is designed to introduce students to both traditional and contemporary craft. Topics covered include concept, functions and origins of craft; techniques, technologies, and culture of craft; major craft movements; and historic craft works. Students will be given an opportunity to appreciate craft by participating in field trips.
Prerequisite(s): HY1105

JL1110 - Reporting & News Writing I
This course is an introduction to the theory and practices of professional journalism. Students obtain a solid foundation in reporting and news writing skills. These skills include the basics of research, interviews and news article writing. The students learn the importance of accuracy and deadlines. Students learn how to conceive newsworthy story ideas, research them and tell stories. They explore the role of journalism and the journalist in society.

JL1120 - Reporting & News Writing II
Students progress from the fundamentals of reporting the news to the fundamentals of storytelling. They learn how to write short profile features, incorporating elements of narrative. They also learn how to cover a variety of general assignment stories they will encounter as entry-level reporters. They develop critical thinking, math and editing skills.
Prerequisite(s): JL1110

JL1130 - Audio Storytelling
This course emphasizes basics of effective radio news storytelling, including professional formatting, writing conventions and presentation. Students will also learn how to use various professional broadcast tools for radio including digital audio recorders; a DAW or Digital Audio Workstation with non-destructive audio editing software, as well as a radio sound board for live broadcast. The course will lay the theoretical and technical foundation students need to effectively craft, record and execute radio news stories.

JL1140 - Current Affairs
Through class discussions and presentations, students will develop an interest in current affairs. They will foster within themselves the ability to relate current affairs to their own lives and to the communities they serve as journalists. Students will devise strategies for following major issues and events at local, provincial, national and global levels. They will identify major current issues and events, as well as trace their background, provide context and draw connections between them.

JL1160 - Video Storytelling
In this course, students learn how to produce news and current affairs videos. They will apply principles and practices of news video production common to both TV and online consumption such as visual storytelling principles, script writing, presentation, composition, lighting, audio and editing. On-campus students will use professional-level video cameras, audio equipment, light kits and editing software. Distance learning students will use accessible tools such as DSLR cameras, affordable microphones, tripods and prosumer video editing software. However, the core skills of video storytelling, composition, writing, presentation, lighting, audio and editing will be the same.

JL1170 - Advanced Broadcast Journalism
In this course, students further develop the learned principles and practices of broadcast journalism, including writing for television and radio; producing video and radio news clips; producing radio news programs, producing TV programs, and speaking on radio and television. The students will apply the technical and editorial knowledge acquired in both Audio and Video Storytelling to a journalism setting to create longer broadcast pieces that attain greater depth with higher production values.
Prerequisite(s): JL1130, JL1160
Co-requisite(s): JL2120, JL1841

JL1180 - Reporting & News Writing IV
Students will produce a major piece of enterprise journalism that provides a public service. The resulting product must meet professional standards and be suitable for publication, broadcast, podcast or website posting. The project may be completed with an outside agency or as an independent project, subject to the instructor's approval.
Prerequisite(s): JL2120

JL1190 - Newsroom III
Newsroom III is primarily is primarily a practical course in which students apply the journalistic principles they have learned in theory. Students will put into practice storytelling using various platforms such as print, broadcast and the Internet. The course seeks to mirror as closely as possible a newsroom setting, complete with story meetings, assignments and tight deadlines which are reinforced. The students help produce a website, a provincial magazine, a weekly radio show and various video projects. Emphasis is placed on establishing good journalistic habits such as meeting tight deadlines and meeting editors' expectations. Students are expected to apply the principles they have learned/are learning in Reporting & News Writing I, II, III and IV, Photojournalism I and II, and Advanced Broadcast Journalism to develop and deliver in-depth news stores in accordance with the modern 24-hour news cycle.
Prerequisite(s): JL1841
Co-requisite(s): JL1180

JL1210 - Freelance Journalism

Students will attain a variety of skills essential to the freelance journalist; how to pitch and market freelance stories for different platforms; manage their freelance careers as businesses; negotiate payments, and uphold their legal rights. They will also examine opportunities to market their work directly to the public. Each student will produce and sell at least one print, broadcast or multimedia piece to a professional news organization.

JL1220 - Professional Wellness

This course provides students with the knowledge and skills to help safeguard their health and wellness while working. It gives them tools to function during crises at home and abroad while fulfilling their roles as reporters and photojournalists. Students will also learn how to identify and minimize both physical and mental health risks in everyday journalism workplaces. Students will acquire the appropriate knowledge and skills through the completion of a series of workshops, quizzes and/or certifications.

JL1230 - Multiplatform Journalism Project

Working in close contact with instructors, students produce a significant multiplatform project. Using the skills learned in print, broadcast, photojournalism and online journalism, students will produce a multiplatform project.
Prerequisite(s): JL1840

JL1420 - Journalism Ethics & the Law

This course explores in depth the legal and ethical issues that journalists face. It educates students about the foundations of Canadian law and how the Canadian legal system functions. It teaches students how to navigate the legal system as they report on criminal and civil cases. It explores the reporter's role in safeguarding both freedom of expression and the integrity of the legal system. Students learn how to avoid committing defamation, contempt of court and other legal mistakes. They learn about the ethical standards of journalism and how to apply them.

JL1430 - Workplace Professionalism

This course is designed to provide students with the skills and knowledge necessary to prepare for the professional journalism workplace and to effectively work in a team environment.

JL1581 - Digital Journalism

Students learn how to use the tools and techniques required in a "digital first" news environment. Once they have successfully completed this course, they will know how to use social and mobile media to gather news, tell stories, develop sources and converse with an audience. They will create multimedia projects such as audio slideshows and interactive graphics using user-friendly software and apps. Students will also shoot and edit video using mobile media, stream audio and video and employ a variety of mobile apps as journalistic tools. They will apply Canadian Association of Journalists guidelines for social media activity.

JL1840 - Newsroom I

Newsroom I is primarily a practical course in which students apply the journalistic principles they have learned in theory. Students will put into practice storytelling, using various platforms such as print, broadcast and the Internet. The course seeks to mirror as closely as possible a newsroom setting, complete with story meetings, assignments and tight deadlines which are reinforced. The students help produce a website, a provincial magazine, a weekly radio show and various video projects. Emphasis is placed on establishing good journalistic habits such as meeting tight deadlines and meeting editors' expectations. Students are expected to apply the principles they have learned/are learning in Reporting & News Writing I and II, Photojournalism I and II, and Video and Audio Storytelling to produce news stories in accordance with the modern 24-hour news cycle.
Prerequisite(s): JL1110, PY1330, JL1130
Co-requisite(s): JL1120, PY1331, JL1160

JL1841 - Newsroom II

Newsroom II is primarily a practical course in which students apply the journalistic principles they have learned in theory. Students will put into practice storytelling using various platforms such as print, broadcast and the Internet. The course seeks to mirror as closely as possible a newsroom setting, complete with story meetings, assignments and tight deadlines which are reinforced. The students help produce a website, a provincial magazine, a weekly radio show and various video projects. Emphasis is placed on establishing good journalistic habits such as meeting tight deadlines and meeting editors' expectations. Students are expected to apply the principles they have learned/are learning in Reporting & News Writing I, II, and III, Photojournalism I and II and Video and Audio Storytelling to produce news stories in accordance with the modern 24-hour news cycle.
Prerequisite(s): JL1840
Co-requisite(s): JL2120, JL1170

JL1850 - News Production I (Post Diploma)

News Production I (Post Diploma) is primarily a practical course in which the Post-Diploma students apply the journalistic principles they have learned in theory. Students will put into practice storytelling using audio broadcast techniques and the Internet. The course seeks to mirror as closely as possible a newsroom setting, complete with story meetings, assignments and tight deadlines which are reinforced. The students help produce a website and a weekly radio show. Emphasis is placed on establishing good journalistic habits such as meeting tight deadlines and meeting editors' expectations. Students are expected to apply the principles they have learned/are learning in Reporting & News Writing I, News Photography I, and Audio Storytelling in accordance with the modern 24-hour news cycle.
Co-requisite(s): JL1110, PY1330, JL1130 *These courses may also be completed prior to JL1850

JL1851 - News Production II (Post Diploma)
News Production II (Post Diploma) students apply the journalistic principles and practices they have learned in theory. Students work as part of a team in producing a provincial news publication, a news website, a weekly radio show and various video assignments. They tell stories via text, audio, video, photographic, social and mobile media. They become accustomed to storytelling in accordance with the modern 24-hour news cycle.
Prerequisite(s): JL1850
Co-requisite(s): JL1120, PY1331, JL1581, JL1160 *These courses may be completed prior to JL1851

JL2120 - Reporting & News Writing III
Journalism students learn how to cover major journalism beats such as politics, business, sports, entertainment, and lifestyles. The course also covers advanced principles of reporting and feature writing.
Prerequisite(s): JL1120

KB1150 - Keyboarding I •
This course develops keyboarding speed and accuracy. Keyboarding speed on straight copy material is developed to 30 net words per minute for five (5) minutes. Note: Students must achieve a typing speed of 30 net words per minute in order to pass KB1150. Students must achieve a typing speed of 40 net words per minute in order to pass KB1151.

KB1151 - Keyboarding II •
This course continues to develop keyboarding speed and accuracy. Keyboarding speed is developed to a minimum of 40 net words per minute for five (5) minutes. Note: Students must achieve a typing speed of 40 net words per minute in order to pass KB1151.
Prerequisite(s): KB1150

LD1120 - Leadership Theory
This course is the first of three leadership courses, and introduces the concepts of group dynamics, team and goal development, and group structure. Exploring effective methods for communicating within groups and identifying strategies for problem solving and collaborating are also included. Students develop and practice these skills through various experiential learning opportunities.

LD1121 - Leadership Practice
This course is the second of three leadership courses designed to help students work effectively with various community groups. Community organizational structure is studied. Students are introduced to fundraising concepts and strategic planning and will develop and implement a fundraising activity to apply their knowledge. These opportunities provide students with initial connections and contacts in the community which are vital for demonstrating competencies in planning and organizing a community project. Decision making, meeting management, facilitation, recruitment, motivation, fund-raising, board development, supervision, mediation and planning are the major topics. Case studies, simulations, role play and formal exams are part of the instruction and evaluation process.
Prerequisite(s): LD1120

LD1200 - Intro to Human Services
This course introduces the student to the human service field and profession. The principles that underlie the delivery of human services will be examined and the knowledge, skills and values relevant to human service work will be identified and analyzed. Through practical and applied opportunities, students will explore and experience the environment in which human services are delivered. Personal suitability for human services will be determined through a systematic approach to examining human service practice while providing current examples of human service work. Students will identify critical components and approaches to helping and empowering others through a human service model of delivery and will also examine the importance of self-care and self-awareness. Finally, students will identify methods and processes of supporting individuals and communities through advocacy and organizing.

LD1210 - Media & Public Relations
This is an applied media and public relations course designed for students intending to work in the human service field. Students will explore how best to develop strategies and campaigns that fit the needs of individual non-profit agencies and will learn how the concept of public relations and the types of media have changed in the 21st century. Applying new concepts and strategies will teach students to prepare a public relations strategy for an organization and demonstrate use of various forms of media, including social media, as a way to address the needs of individual organizations. Upon completion of the course, students will be able to address the media through interviews, give presentations, develop a public relations strategy, and use social media to market an organization as well as fulfill requirements such as recruitment and fundraising.

LD1300 - Professional Certifications I
This course provides students with the knowledge and skills to identify and assess crisis development in human service agencies and to implement appropriate strategies for prevention and intervention. Students will acquire the appropriate knowledge and skills through the completion of a series of workshops and certifications.

LD2100 - Community Development

This course introduces students to the major concepts, principles and challenges of the community development field. It allows students to take a critical look at conventional approaches to development, as well as theoretical influences on current community development practice. Students are further encouraged to examine best practices in international development and discover the common framework where these two intersect. Through the examination of both community and international development, students will learn about the diverse roles and occupations within the field.

LD2110 - Change Leadership

This course is the third and final leadership course designed to provide students with the opportunity to work extensively with an identified community partner. Students practice and develop their leadership skills by responding to a community needs assessment. Students learn what it takes to become change agents by developing and implementing a sustainable project from beginning to end. In true partnership with a community agency or organization, students will develop a strategic plan, implement that plan, and evaluate the learning process.
Prerequisite(s): LD1121

LD2220 - Interviewing Skills

This course is designed to develop the basic skills and knowledge necessary to conduct effective interviews in helping relationships. Using a micro skills training model, students will examine a framework within which interviewing takes place. Students will identify practical interviewing and basic counseling strategies, and apply interviewing skills in a variety of situations, through the extensive use of role-playing, case studies and report-writing.
Prerequisite(s): HR1120

LD2250 - Diverse Populations

Diverse Populations will position students to explore the social/cultural context of helping relationships as guided by the population groups. Students will gain a greater understanding of working with diverse populations by examining topics around immigration, settlement, and integration into society. Students will learn to view these groups in a more holistic way by reading, studying and discussing a selection of essays, articles, and stories written by or in cooperation with members of these populations. Students will grasp the impact stereotypes have on individuals and groups within Indigenous, Immigrant and Refugee, and the lesbian, gay, bi-sexual, transgender, queer and two-spirit (LGBTQ2S) community. Students will learn to think, reflect, and develop appropriate practice strategies for working with individuals, groups, and the community.
Prerequisite(s): SC1110, SC1130

LD2300 - Intro to Social Research

This course is an introduction to social research. Students will learn to approach research as a process which takes place in three phases and each phase has specific steps to follow. On completion of this course students will be able to do the kinds of research required for jobs in marketing, social policy, social work, politics, communication, or community work.

LD2400 - Voluntary Non-Profit Sector

This course introduces students to the non-profit volunteer community sector and various strategies for building and financing community development ventures. Students will identify techniques for creating innovative solutions to meeting community challenges. With a focus on the management of human and other resources in the volunteer and non-profit (VNP) sector, students will be introduced to management instruments, financial concepts, proposal writing, generating revenue and fundraising. An experiential learning approach will help to establish skills through projects and assignments.

LD2500 - Project Management

This course focuses on project management. Students will work through the process required for taking a project from the creative phase to project completion. Students will create a project, monitor the budget, identify staffing and work through other requirements for the successful completion of a project. Microsoft Excel will be used to develop spreadsheets and to create charts and tables to enhance the appearance of the project proposal report. Independently, students will research, develop, and write a project report.

LD2510 - Professional Certifications II

This is the second Professional Certifications course and offers further development opportunity for students to gain the knowledge and skills necessary for identifying and assessing crisis development in human service agencies. Students will learn to implement appropriate strategies for prevention and intervention while acquiring the appropriate knowledge and skills during the completion of a series of workshops and certifications.
Prerequisite(s): LD1300

LW1070 - Ethics & Law

This course introduces learners to the legal and ethical rights, obligations and responsibilities of the engineering technician profession in the work place. Learners will gain an understanding of the intent and application of professional codes of ethics, Torts, Contract Laws, and environmental protection regulations.

LW1100 - Business Law

This course is an introduction to the Canadian legal system including the federal and provincial judicial systems, civil law, tort law, and contract law including types of contracts, offer and acceptance, breach of contract, discharge of contract, and capacity to contract.

LW1130 - Tourism Law

This course explores the legal responsibilities, obligations, and liabilities which may be encountered in the tourism industry. Students will gain valuable and practical insights into the nature of the relationships between innkeeper and guest, restauranteur and diner, and private host and guest. Pertinent legislative acts relevant to the hospitality industry on both Federal and Provincial levels will be examined. The focus of this course is preventive in nature as emphasis is placed on building the students' awareness of the legal issues in the tourism industry.

LW1210 - Labour and Employment Law •

This course will examine the ever changing subordinate legislation, statute and common law in Canada that deals with union-management relations and interactions, as well as the relations and interactions between individual (non-unionized) employees and their employers. The course is designed to provide students with a current overview of the Canadian system of labour and employment law. The student will explore employment law; labour law; and statute/subordinate legislation for labour and employment law. Students will have the opportunity to apply and research various employment and labour law legislation and cases.
Prerequisite(s): HN1100, HN1240

LW1230 - Business Law •

This course will examine the fundamental principles of the Canadian legal system. The student will explore the Canadian legal system, torts, contracts, business law, employment law and international business law. Students will have the opportunity to apply and research various business law cases.

LW1280 - Information Management Law •

This course introduces the student to the legal framework which affects information management. The student will learn about the structure of the federal and provincial legal system. Furthermore, the student will be introduced to the language of law and procedures to follow when interpreting legislation. The provincial and federal legislation that impacts information management in government, health and private industry will be discussed focusing on the impact of information management methodologies. Finally, the student will study industry best practices for legal compliance.
Prerequisite(s): OP1390

LW1500 - Law & Ethics

This course comprises various aspects of law and ethics as they apply in an industrial/business setting. The intent is to develop an understanding of fundamental concepts and a frame of reference guiding the application of these principles.

LW1600 - Construction Law

This is an introductory course dealing with the application of tort and contract law as applied to the construction environment. Topics covered include but are not limited to a study of various federal and provincial acts that affect the construction phase of project development; the law of contract, insurance and bonding, the law of torts, construction claims, construction contract documents and ethics.
Prerequisite(s): CM1401

LW1610 - Management & Construction Law

This is a course dealing with management principles, professional relationships, and various laws applicable to the design and construction industry. It is designed to enable the student to become familiar with a number of generic management systems and the specific laws and codes of ethics which govern this industry.
Co-requisite(s): BU3300

LW2210 - Natural Resources Policy and Law

This course is designed to address the principles and processes related to the establishment and implementation of policies and laws for the management and protection of natural resources. Topics critical to the comprehension of Canadian law, including the Charter of Rights and Freedoms, the Criminal Code, resource policies, regulations and relevant acts will be addressed.

LW2211 - Law Enforcement

This course requires the use of legal documentation and enforcement equipment. It involves the role of a peace officer and the proper investigation, recording and reporting of natural resource infractions. It includes information patrolling, covert operations, use of decoys, powers of arrest, search and seizure, and interviewing techniques, as well as preparation for court proceedings and sentencing.
Prerequisite(s): LW2210

LX1010 - Apparatus & Accessories •

This course has been developed so that the student will have a comprehensive knowledge of the production of x-radiation that will be useful for medical purposes. The student will study the use of the x-ray tube, its components, and characteristics that will allow the proper control of the x-ray beam. The student will have a basic knowledge of the electrical circuits that are essential for the production of the type of x-radiation that will result in high quality radiographic imaging. The student will learn about the effective use of grids and collimators to reduce patient dose and improve image quality. The student will gain knowledge of methods employed to facilitate heat dissipation during the production of x-radiation, as well as practical skills employed to conserve tube life. Finally, the student will be able to identify signs of tube failure.

LX1020 - Radiographic Anatomy & Pathology •

In this course students will study human anatomy as it relates to performing diagnostic radiographic examinations. Identification of anatomical structures on the radiograph as well as differentiation between the normal and abnormal radiographic images will be studied. Finally, students will use their knowledge of tissue densities (either normal or pathological) to accurately locate hidden structures by relating to surface landmarks.

LX1050 - Radiographic Technique •

This course is designed to introduce the student to the fundamental practices involved in the performance of radiographic positioning and procedures and the analysis of the resultant image. Instructional areas include: terminology, IR identification, patient/technologist relationship, examination procedures and protocol, image analysis and critique, radiation protection and technologist responsibility. Emphasis will be placed on basic, alternate, and trauma imaging.
Prerequisite(s): LX1020

LX1060 - Patient Care & Safety •

This course is designed to provide the student radiographer with the necessary knowledge to provide good patient care in a variety of situations which he/she might encounter in the hospital environment. This course emphasizes basic concepts in general patient care, body mechanics, basic nursing skills, as well as caring for patients with special needs.

LX1070 - Simulated Practical Radiography •

This course provides the student with seven weeks of simulated general radiography which will prepare them for their upcoming clinical experience. The course utilizes simulated patients, including manikins, x-ray phantoms, and fellow students and focuses on skill development in radiographic positioning, image recognition (normal and abnormal) and equipment operation, assisting the student to correlate theory learnt in previous courses to patient situations. Students will be required to demonstrate their ability to prioritize, organize and implement procedures in general radiography including trauma situations. Students will be required to demonstrate routine, pathology and trauma skills necessary to image skeletal (including skull), and respiratory, digestive and urinary anatomy. Professional practice will be stressed as well as the ability to provide patient care while emphasizing safety. Students will be expected to adhere to and provide radiation protection, optimize image quality and utilize a quality assurance program with special attention to performing quality control procedures and mitigating potential risks.
Prerequisite(s): LX1050, LX2000

LX1080 - Clinical Radiography •

This clinical course is designed to provide the combined laboratory and x-ray technology student with extensive clinical experience. Applied knowledge of anatomy, radiographic technique, pathology, radiation protection and patient care and safety will be reinforced. Emphasis will be placed on intensive demonstration and application of clinical skills in professional practice. Throughout the entire clinical component of the X-Ray Skills program, the student will maintain documentation which demonstrates both the quality and quantity of clinical experience acquired, thus ensuring on-going maintenance of competencies acquired.
Prerequisite(s): Successful completion of all previous courses

LX1100 - Digital Imaging & Quality Management •

This course is designed to give the student a comprehensive knowledge of the process involved in the formation of a diagnostic x-ray image generated through the use of radiant energy. Students will learn digital methods of image capture and will become familiar with the many factors that affect the quality of the radiographic image. This course will also provide students with knowledge of quality assurance processes associated with image quality management. The student will be able to describe and explain specific quality control procedures necessary to maintain a high standard of image quality in a digital imaging environment.

LX1110 - X-Ray Physics & Radiation Protection •

This is a radiation physics course designed for x-ray skills students to give them an understanding of: (1) x-ray physics: the nature of x-rays, the production of x-rays, the interaction of x-rays with matter; (2) radiation dosimetry: radiation exposure, absorbed dose, dose equivalent, effective dose equivalent, detection of radiation and dosimeters. Combined with their knowledge of radiobiology, students will learn how to utilize radiation to provide maximum diagnostic information with minimal biological damage to the patient. Students will become familiar with national and provincial standards. They will learn how to maintain these standards by the correct use of equipment, accessories and other relevant factors. Students will also learn how to provide maximum protection from ionizing radiation for the patient, general public, co-workers and themselves.

LX2000 - Clinical I •

This clinical course is designed to reinforce in a practical manner, the theoretical knowledge the student is acquiring during the didactic segment of their training program. Under the direction and supervision of a clinical preceptor, students participate in a variety of basic routine radiographic procedures in accordance with their level of training. Students are also afforded the opportunity to enhance their knowledge of radiographic equipment used in today's modern diagnostic imaging departments. Finally, students are able to apply their understanding of the concepts used in providing quality patient care and radiation protection by observing radiographic procedures in a "real life" setting.
Prerequisite(s): LX1110, LX1010

MA1010 - Mathematics I for Aboriginal Students
This course has been developed for aboriginal students using culturally relevant readings, examples, and problems. It emphasizes a study of number theory, basic arithmetic, and problem solving skills. Fractions, decimals, and percents will be reviewed in detail, and basic concepts of geometry will be introduced. Students will become proficient in the use of Systems International (SI) measurements.

MA1011 - Mathematics II for Aboriginal Students
Building upon the skills, and using culturally relevant materials akin to those mastered in Mathematics I for Aboriginal Students, this course seeks to emphasize algebraic and geometric concepts. The translation of linear algebraic expressions and inequalities, and the solving of equations using the multi-step method are introduced, along with the geometric notions of perimeter, area, and volume. The Imperial measurement system is examined and students learn conversions between the metric and imperial systems
Prerequisite(s): MA1010

MA1012 - Mathematics III for Aboriginal Students
This course has been developed for aboriginal students using culturally relevant readings, examples, and problems. Emphasis will be placed upon an exploration of positive and negative exponents, polynomials, and the graphing of linear equations upon a coordinate plane. Primary trigonometric ratios will be discussed in relation to real-life situations, and students will analyze and create common types of graphs.
Prerequisite(s): MA1011

MA1021 - Basic Laboratory Calculations
This course will provide students with the skills to perform math calculations to ensure accurate patient results. It includes a review of basic mathematical principles; calculations associated with dilutions, solutions, molarity and normality; calculations specific to areas of the clinical laboratory; and basic statistical calculations associated with quality assurance and quality control.

MA1040 - Math Fundamentals I •
Math Fundamentals I is a Comprehensive Arts and Science (CAS) Transition course. This course starts with a review of fundamental mathematics skills and continues with an exploration of algebra, including variables, linear equations, algebraic word problems, graphing, functions, exponents and polynomials. A calculator may be used in units 1 and 2 but students must show all workings.

MA1041 - Math Fundamentals II •
Math Fundamentals II is a Comprehensive Arts and Science (CAS) Transition course. This is a course in pre-calculus mathematics that covers topics such as factoring, rational expressions and equations, radicals, linear equations, quadratic equations, graphing, trigonometry, and logarithmic and exponential equations. It is designed to build on students' fundamental mathematical knowledge and skills, thereby providing a solid foundation for success in subsequent mathematics and related College courses.
Prerequisite(s): MA1040

MA1070 - Structural Repair Shop Mathematics (M, E, S)
This is an introductory course providing practical exercises in mathematics. The course begins with a review of basic mathematics and leads to a solid foundation of practical and realistic application for Aircraft Structural Repair.

MA1072 - Mathematics for Aircraft Maintenance
This is a course designed to support the mathematical needs related to the field of Aircraft Maintenance Engineering. This course is to be used in conjunction with MA1070 to fulfill the math requirements for AME.
Prerequisite(s): MA1070

MA1081 - Math Fundamentals in NDT
This course is designed to prepare Non-Destructive Testing students to use basic math concepts directly related to the core disciplines in Non-Destructive Testing. The major topics will contain content that reflects more specific required topics for Non-Destructive Testing applications. The focus of this course is to introduce technical math to students to enable them to apply the concepts in each of the disciplines of Non-Destructive Testing.
Prerequisite(s): AM1100

MA1095 - Baking & Pastry Arts Math
This course will build on the fundamentals of math and explore the specific application of mathematics in baking and pastry arts.
Prerequisite(s): AM1100

MA1100 - Mathematics
MA1100 is a course in pre-calculus mathematics that covers several topics in both algebra and trigonometry. Topics include: ratios and proportions, algebraic expressions, fractional algebraic expressions, exponents and radicals, logarithms, trigonometric functions, oblique triangles, and linear equations and determinants. This course focuses on strengthening students' fundamental mathematical knowledge and skills, thereby providing a solid foundation for success in subsequent mathematics and related courses.

MA1101 - Mathematics
This is a course designed to prepare students for the study of calculus as well as to introduce and give them a facility with the concepts of differentiation necessary for a better understanding of a variety of technology courses.
Prerequisite(s): Successful completion of either Mathematics MA1700, MA1100, HS Advanced Mathematics 3200, or a minimum grade of 70% in HS Academic Mathematics 3201

MA1104 - Algebra and Trigonometry
Transferable to MUN Math 1090. This pre-calculus course is designed to strengthen the student's skills in basic algebra, review and develop a deeper understanding of the concept of a function and make students aware of the importance of trigonometry. The course also uses technology to enhance the student understanding. After completing this course a student will have the essential prerequisite elements to complete an introductory calculus course.
Prerequisite(s): At least 65% in Mathematics 3201 or a pass in Mathematics 3200 or at least 55% on the Mathematics Placement Test or a pass (50%) in MA1041.

MA1120 - Finite Mathematics I
Transferable to MUN Mathematics 1050. This course is designed to satisfy part of the first year mathematics requirement for prospective teachers in primary and elementary education programs. This course is also suitable for students headed into a non-science area of study.
Prerequisite(s): At least 60% in Mathematics 3201 or a pass in Mathematics 3200 or at least 50% on the Mathematics Placement Test or a pass (50%) in MA1041

MA1121 - Finite Mathematics II
Transferable to MUN Mathematics 1051. This course is designed to satisfy part of the first year mathematics requirement for prospective teachers in primary and elementary education. This course is also suitable for students headed into a non-science area of study.
Prerequisite(s): At least 60% in Mathematics 3201 or a pass in Mathematics 3200 or at least 50% on the Mathematics Placement Test or a pass (50%) in MA1041.

MA1130 - Calculus I
Transferable to MUN Mathematics 1000. This is an introduction to differential calculus including logarithmic, exponential, and trigonometric functions with applications.
Prerequisite(s): At least 75% in Mathematics 3200 or a pass in Mathematics 3200 and at least 75% in the Mathematics Placement Test or a pass (50%) in MA1104 or a pass in Mathematics 3204 and at least 85% on the Mathematics Placement Test or a pass in Mathematics 3205 and at least 75% on the Mathematics Placement Test

MA1131 - Calculus II
This course is an introduction to integral calculus with applications. Transferable to MUN Mathematics 1001.
Prerequisite(s): A pass (50%) in MA1130 or an acceptable score on the Calculus Placement Test

MA1140 - Applied Mathematics
To provide students with an understanding of the concepts of elementary differential and integral calculus in preparation for technology courses. Throughout the course, students will have the opportunity to develop their analytical reasoning and problem solving skills.
Prerequisite(s): MA1100

MA1150 - Math Refresher for EASA Module 1
This course is designed to prepare the student to write the EASA module 1 exam by building on mathematics skills learned in previous training. It should be noted that the use of a calculator is not allowed during EASA exams.

MA1160 - Practical Mathematics
A practical course in mathematics designed to provide students with fundamental knowledge and skills needed for working in various industries.

MA1521 - Applied Mathematics for CSN
This course provides a practical mathematical background for Computer Systems and Networking. The course covers topics in number systems, set theory and statistics in the context of supporting computer systems. The examples used in this course have a direct application to network and operating system analysis.

MA1530 - Statistics
This course is designed to introduce the student to the basic principles of statistics with the use of Microsoft Excel.

MA1670 - Statistics •

This course introduces students to the basic principles of probability and statistics, and the decisions that can be made using statistics. In this course the student will explore descriptive statistics, elementary probability, discrete and continuous probability distributions, sampling distributions, hypothesis testing, chi-square distribution, analysis of variance, linear regression and correlation, and multiple linear regression. The student will have the opportunity to apply and interpret the results of a variety of statistical techniques from both descriptive and inferential statistics; to apply the fundamental concepts in statistics including sampling, experimentation, variability, distribution, association, causation, estimation, confidence, hypothesis testing, and significance; to critically review and analyze statistical arguments found in the popular press and in scholarly journals; and to appreciate the relevance and importance of statistics.

MA1700 - Mathematics

This is a course in pre-calculus mathematics designed to help strengthen students' mathematical skills and thereby increase their chances for success in other technical courses.

MA1900 - Problem Solving for Information Technology •

The course is intended to illustrate how to develop logic for computer programs. To aid in the development of the student's use of problem solving techniques necessary for Information Technology, a practical mathematical background is provided in this course as it applies to business data processing. A review of basic algebra and computer-related mathematical topics is covered.

MA2100 - Mathematics

In this course students will extend their study of topics in differential calculus and will also be introduced to integral calculus. Topics covered will assist students to better understand concepts encountered in other courses.
Prerequisite(s): MA1101

MA2130 - Applied Mathematics

This is primarily an applied calculus course designed to meet the specific requirements of the following technology programs: Mechanical Engineering Technology (HVAC, Power and Manufacturing), Industrial Engineering Technology.
Prerequisite(s): MA2100

MA2150 - Linear Algebra I

Transferable to MUN Mathematics 2050. Linear algebra is the branch of mathematics dealing with solutions of linear equations, and related ideas of vector space and linear transformations. This is a practical, non-calculus course where students learn how to solve systems of linear equations, perform matrix algebra, find eigenvalues, diagonalize matrices, and perform vector geometry.
Prerequisite(s): MA1130 or ten credit hours in first-year mathematics courses (two first year math courses)

MA2180 - Applied Geomatics Mathematics

This course consists of an introduction to probability and statistics with emphasis on descriptive statistics, probability theory and two variable data sets. It also investigates error propagation and error analysis as it pertains to the surveying industry.
Prerequisite(s): MA2100

MA3130 - Advanced Geomatics Mathematics

This course consists of elements of spherical trigonometry and an introduction to conditional adjustment as it pertains to the surveying industry.
Prerequisite(s): MA2180

MA3700 - Production and Operations Management

This course is designed to provide the student with an understanding of the process involved in production management and operations management. Operations management involves design, planning, control and improvement of the activities or processes that transform a firm's inputs into final products. In this course the student will study the building blocks of operations management. The student will study the importance of interaction and coordination of business areas to meet organizational goals. Various mathematical and computerized models are introduced and their application to the decision-making process is emphasized.
Prerequisite(s): FN1140, MA1670 and MC1242

MC1080 - Introduction to Computers

This course is designed to give the student an introduction to computer systems. Particular emphasis is given to word processing, spreadsheets, e-mail, the Internet, and major security issues. Upon successful completion of this course, students will have a basic understanding of computer systems and their operation, popular software packages and their applications, and security issues of computers.

MC1130 - Computer Studies

This course is an introduction to microcomputers, their operations, hardware, and popular software applications including the laboratory information system (Meditech). The student will develop the basic skills to use an operating system, a word processor, and a spreadsheet.

MC1140 - Digital Literacy in the Workplace
Production tools in the majority of offices, throughout many industries, benefit from the use of digital software. Common software integrations that help create an organized and productive work environment include word processing, spreadsheets, project management, presentation, email communications, as well as popular online resources that facilitate all of these tools and file-sharing opportunities. Providing students with digital literacy knowledge, and how these production tools work, is important to promote successful academic studies throughout the college experience, and provide essential skill sets that can be applied in the workplace.

MC1150 - Productivity Tools •
This course is designed to give the student a working knowledge of a software suite. Particular emphasis is given to the word processing, spreadsheet, database or presentation components of the suite, e-mail and internet.

MC1240 - Computer Applications I •
This course will introduce the students to the use of e-mail and the Internet, manipulating files in the Windows operating environment, basic word processing techniques, and basic presentation creation techniques. Students will apply concepts through practical application.

MC1242 - Computer Applications II •
The course is designed to expose the student to software packages that can be used to create spreadsheets.
Prerequisite(s): MC1240

MC1570 - Creative Technologies
This course is designed to enable students to use computers to access software and hardware in order to enhance musical creativity and performance. A range of contemporary applications will be used and students will be required to produce music-based assignments using this technology. Main areas will include synthesizers, sequences and drum machines, music notation software, digital audio, MIDI technology, and current and future trends.

MC1850 - Spreadsheet Applications
This course is designed to give the student a working knowledge of a Windows operating system and the use of electronic spreadsheets. This course teaches the student how to work with different types of spreadsheet documents using a variety of core and intermediate features to create and edit professional-looking spreadsheets for a variety of purposes and situations.

ME1400 - Mechatronics I - PLC
This course introduces the student to the general concepts and programming techniques for digital, networked, and peer to peer communications associated with programmable logic controllers (PLCs) with a focus on mechatronics applications.

ME2400 - Mechatronics II - Automation
This course is an introduction to automated process control systems, designed to provide the student with the fundamental techniques used to control various process variables to achieve desired outcomes. Students are shown how the learned concepts are applied to control mechanical systems.
Prerequisite(s): ME1400

ME3400 - Mechatronics III - Robotics
This is an advanced course for students having some background in technology. Graduating students will possess a good understanding of robotics and machine vision systems as well as the necessary technical expertise to be able to meet the current needs of the industry.

MH1300 - Building Operations I
This course will introduce the basic building operation. It will provide the student with an understanding of the operation of commercial buildings and light industrial heating plant equipment.

MH2100 - Building Operations II
This course will expand upon basic building operations. It will provide the student with an understanding of environmental comfort and the operation of commercial buildings and light industrial pumps, compressors, and energy maintenance systems related to heating plant equipment.
Prerequisite(s): MH1300

MH2830 - Mechanical Building Systems I - HVAC
This course will introduce the fundamentals of HVAC. It will provide students with an understanding of the methods of recognition and evaluation of various aspects related to HVAC.

MH3350 - Mechanical Building Systems II
This course will introduce the student with the understanding and application of various codes and standards. It will provide the student with the knowledge of industrial ventilation and applications of industrial ventilation, piping heating and cooling systems for specific operations. It will provide the student with the knowledge and understanding of various components associated with the various systems.
Prerequisite(s): MH2830

MH4610 - Mechanical Building Systems III

This course will introduce the student with the understanding and knowledge of acoustic, fire protection and smoke management, testing, adjusting and balancing of HVAC systems, equipment and ancillary schedule, cost estimate, mechanical specifications and detailed plant system design.
Prerequisite(s): MH3350

MI1010 - AWS Academy Cloud Foundations •

AWS Academy Cloud Foundations is intended for students who seek an overall understanding of cloud computing concepts, independent of specific technical roles. It provides a detailed overview of cloud concepts, AWS core services, security, architecture, pricing, and support.

MI2010 - AWS Academy Cloud Architecting •

AWS Academy Cloud Architecting covers the fundamentals of building IT infrastructure on AWS. The course is designed to teach solutions architects how to optimize their use of the AWS Cloud by understanding AWS services and how they fit into cloud-based solutions. Although architectural solutions can differ depending on the industry, type of application, and size of the business, this course emphasizes best practices for the AWS Cloud that apply to all of them. It also recommends various design patterns to help you think through the process of architecting optimal IT solutions on AWS. Throughout the course, students will explore case studies that showcase how some AWS customers have designed their infrastructures and the strategies and services that they have implemented. Finally, this course provides opportunities for students to build a variety of infrastructures through a guided, hands-on approach.
Prerequisite(s): MI1010 or have equivalent experience

MI3010 - AWS Academy Cloud Developing

AWS Academy Cloud Developing is designed to help students gain technical expertise in development using cloud technologies and prepare them to take the AWS Certified Developer – Associate level AWS Certification exam. The curriculum is delivered through instructor-led classes, knowledge assessments, and hands-on labs. Students will also have access to course manuals, online knowledge assessments, a free practice certification exam, and a discount voucher for the certification exam.
Prerequisite(s): MI1010 or have equivalent experience

MI4010 - AWS Academy Cloud Operations •

AWS Academy Cloud Operations is designed to prepare participants to pursue entry-level DevOps, support, and cloud operations roles. It will also help prepare them to take the AWS SysOps Administrator – Associate exam. Emphasizing best practices in the AWS Cloud and recommended design patterns, this course will teach students how to solve problems and troubleshoot various scenarios. The course will show students how to create automatable and repeatable deployments of networks and systems on AWS and covers specific AWS features and tools related to configuration and deployment. With case studies and demonstrations, students will learn how some AWS customers design their infrastructures and implement various strategies and services. Students will also have the opportunity to build a variety of infrastructures via guided, hands-on activities.
Prerequisite(s): MI1010 or have equivalent experience

MI5010 - AWS Academy Data Analytics

AWS Academy Data Analytics is a series of lab exercises that teach students how to conduct Big Data analysis with practical, real-world examples. Students will learn how to analyze extremely large data sets, and to create visual representations of that data, using a case-study approach. The labs and learning resources are designed to supplement an institution's existing Big Data and data analytics courses and provide students with hands-on experience working with data at scale. Geared toward students interested in pursuing careers in data analysis, AWS Academy Data Analytics requires a strong foundation in IT concepts and skills, and it contains seven-and-a-half hours of content.
Prerequisite(s): MI1010 or have equivalent experience

ML1000 - General Laboratory Knowledge

Students will apply basic principles of mathematics, chemistry and physics to prepare reagents, to perform simple laboratory procedures, and to properly use and maintain basic laboratory equipment.

ML1010 - Orientation and Medical Laboratory Skills

This course provides an orientation to the role and responsibilities of the Medical Laboratory Assistant in the health care field. Students will define the term professional and examine the desired characteristics of a health care worker. Liabilities of this career will be explored. Students will be introduced to accepted safety procedures for handling specimens, reagents, and equipment (includes WHMIS training). The laboratory sessions will introduce students to selected manual skills that are an integral part of medical technology.

ML1011 - Orientation to MLT

This course provides an orientation to the role and responsibilities of the Medical Laboratory Technologist in the health care field. Students will explore the term professional and examine the desired characteristics of a health care professional. Liabilities of this career will be explored along with an overview of the professional bodies and organizational structure of the profession. Students will be introduced to accepted safety procedures for handling specimens, reagents, and equipment (includes WHMIS training). The laboratory sessions will introduce students to selected manual skills that are an integral part of medical laboratory technology.

ML1025 - Laboratory Calculations

This course will provide students with the mathematical skills required to prepare solutions, to read and record laboratory results, and to monitor quality control and quality assurance testing in the laboratory. Students will utilize these mathematical skills to prepare reagents, solutions, and dilutions.

ML1030 - Practical Clinical Chemistry

Students will collect, assess suitability, store, and prepare samples for chemical analysis, taking into account priority and suitability of the specimen. Students will also perform simple and automated chemical tests under the supervision of a registered medical laboratory technologist.
Prerequisite(s): ML1000, ML1010, ML1025, BL1600

ML1035 - Immunology and Hemotology

This course provides the theoretical and applied knowledge associated with routine clinical hematology and immunology required to manipulate clinical hematology specimens. An overview and introduction to routine hematology procedures and the associated immunological concepts will be completed, in preparation for advanced study in hematology and immunohematology.

ML1040 - Practical Hematology

This course provides the theoretical and applied knowledge required to collect, store and prepare samples by routine hematology procedures; prepare and stain peripheral smears; and load automated equipment under the supervision of a registered medical laboratory technologist.
Prerequisite(s): ML1000, ML1010, ML1025, BL1600

ML1050 - Practical Microbiology

Students will learn to prepare, sterilize, store and perform quality control checks on various types of microbiological media. Students will process specimens from a variety of sources including planting, streaking and incubating. Students will perform pre-analytical procedures in the microbiology laboratory.
Prerequisite(s): ML1000, ML1010, ML1025, BL1600

ML1060 - Practical Histotechnology/Cytology

Students will perform routine cytology and histotechnology techniques including paraffin processing, smear preparation of body fluids, and simple stains and cover slipping of slides under the supervision of a medical laboratory technologist.
Prerequisite(s): ML1000, ML1010, ML1025, BL1600

ML1070 - Specimen Collection

Students will collect, store, and prepare blood samples for analysis, and learn collection and handling methods for other types of body fluids and tissue samples.
Prerequisite(s): ML1000 or ML1090, ML1010 or ML1011, ML1025 or ML1021, BL1600

ML1080 - Clinical Practicum

This course allows the student to gain practical experience in a clinical laboratory collection centre including the application of office skills, client communication and specimen collection. It also permits the student to gain practical experience in the clinical laboratory under the supervision of a registered medical laboratory technologist. Pre-analytical procedures performed include basic hematological techniques, macroscopic urinalysis, simple solution preparation, data entry and loading of automated analyzers, preparation and processing of tissue and body fluids, and preparation, inoculation, streaking and culturing of microbiological media.
Prerequisite(s): Successful completion of all semester 1 and 2 courses

ML1090 - Medical Lab Knowledge

This course provides an orientation to the standard operating equipment of the medical laboratory technology profession. Students will be introduced to the fundamental equipment and given an opportunity to develop basic applied skills suitable for the clinical laboratory setting which will carry through the remainder of the program. Students will practice accepted safety procedures for handling of laboratory specimens, reagents and equipment. The theory and practical skills gained throughout this course are integral to the performance of laboratory procedures in subsequent MLT courses.

ML1140 - Intro to Quality Management

In this introductory course to quality management, students will examine how quality management in a clinical environment is monitored, maintained and continuously improved. An analysis of different quality systems will allow students to compare the systems and determine their usefulness in the laboratory environment.

ML1160 - Laboratory Pathophysiology

Utilizing a case study spiral learning methodology, this course presents and revisits general concepts of key disease processes covered during the first half of the MLT program and expands upon their impact on health from a clinical laboratory perspective. Through a lens of the five primary laboratory disciplines, the course focuses on major pathophysiologic changes in various disease states, including study of the associated etiology, pathogenesis, and laboratory manifestation As well as functioning to solidify their understanding of physiology and disease, the course is designed to help the student develop deeper knowledge of the relationships between laboratory results and clinical conditions, most importantly, to recognize possible discrepancies and implausible laboratory values in preparation for clinical simulation.
Prerequisite(s): Successful Completion of all Semester 4 courses

ML1213 - Hematology 1

This is an introductory course in hematology instrumentation. It is intended to provide students with a fundamental knowledge of the principles of automated analysis in a clinical hematology laboratory. Students will study principles of automated cell counting, with an overview of quality control for automated cell analysis. Students are introduced to case studies pertaining to automated hematological analysis. It also includes various manual laboratory procedures, such as preparation and staining of blood smears and erythrocyte sedimentation rates.
Prerequisite(s): ML1035

ML1335 - Histology

Students will study the microscopic structure and function of normal human tissues which serves as an extension of their study of anatomy and physiology. This course will begin with the cell, progress through the basic tissue types, and finally discuss the major body systems. Common disease processes associated with particular tissue types will also be studied. Students will also be introduced to a routine pathology laboratory setting and given an opportunity to explore the working environment as it relates to safety, accessioning, and operations.
Prerequisite(s): BL1600

ML1360 - Histotechnology 1

The course will introduce the student to the workings of a clinical histotechnology laboratory. Topics include: Safe work practice in a histology laboratory along with an introduction to instrumentation, and routine tissue processing. Students will also be introduced to biological staining principles and the hematoxylin and eosin stain.
Prerequisite(s): ML1335

ML1520 - Intro to Transfusion Medicine

The course will provide students with a fundamental knowledge of transfusion from both the donor and patient perspective. Using the knowledge and skills obtained in ML2401 – Intro to Blood Banking, the following will be examined: clinical transfusion practice, compatibility testing, adverse effects of transfusion, transfusion reaction investigation, hemolytic disease of the fetus and newborn as well as autoimmune hemolytic diseases. Associated laboratory testing will be introduced in laboratory sessions.
Prerequisite(s): ML2401

ML1530 - Working in Healthcare

Students examine the concepts of working in healthcare. Historical aspects of the Canadian Health Care System and recent changes to the system are explored. The significance of these changes to the citizens of Canada and Newfoundland and Labrador, and to the roles of managees in the field will be considered. Areas to be addressed include: management and employee decision making; integration of roles; motivation and job satisfaction; accepting and coping with change; introduction to stress and becoming employed. Application of these concepts to related work settings provide an employee's perspective to working in a rapidly changing field.

ML1660 - Clinical Practicum I

This course allows the student to develop technical competence in pre-analytical procedures while reviewing theoretical material from previous semesters. The two week hospital rotation will emphasize the pre-analytical phase of the testing process and acquaint the student with the hospital operation and policies.

Students must successful complete CH1350, ML1213, BL2425, ML1360 and HG1300 in order to be eligible for this course.
Prerequisite(s): Successful completion of: CH1350, ML1213, BL2425, ML1360, HG1300

ML2100 - Hematology 2

This is an intermediate level course in the discipline of Hematology with a specific focus on the erythrocytic series including an overview of the most frequently encountered anemias. It is intended to provide students with a fundamental knowledge of erythrocytes, including: origin, characteristics, functions, routine laboratory procedures, normal and abnormal morphology, and associated pathologies.
Prerequisite(s): ML1213

ML2120 - Histotechnology 2

This course is intended to instruct students in the theoretical and practical aspects of histotechnology. The course will concentrate on aspects of grossing, instrumentation, and routine tissue processing techniques associated with a clinical pathology laboratory. Along with a theoretical overview of tissue processing methods and surgical pathology, students will gross, process, embed, and perform microtomy on both human and non-human tissue to prepare tissues for staining and microscopy.
Prerequisite(s): ML1360

ML2210 - Hematology Sim 1

In a simulated hospital laboratory setting, this course requires students to apply their pre-requisite knowledge of Hematology. Emphasis is on routine Hematology tests and procedures as well as interpretation, documentation and reporting of laboratory results. Additionally, safe work practices and quality control principles are reinforced. It also incorporates significant automated hematological analysis.
Prerequisite(s): ML2225

ML2211 - Hematology Sim 2

This is a comprehensive course in Hematology, encompassing the fundamentals and application of information acquired to date in this discipline. Emphasis is on normal and abnormal blood cell morphology, routine coagulation testing as well as interpretation, documentation and reporting of laboratory results. It also introduces the student to a working theory of special hematology stains. Additionally, applications of flow cytometry to hematopathology will be reviewed.
Prerequisite(s): Successful completion of Semester 6

ML2225 - Hematology 3

This is an intermediate level course in the discipline of Hematology with a specific focus on the leukocytic series and hemostasis including an overview of the most frequently encountered myeloproliferative disorders. It is intended to provide students with a fundamental knowledge of leukocytes and coagulation, including: origin, characteristics, functions, routine laboratory procedures, normal and abnormal morphology, and associated pathologies. An introduction to flow cytometry analysis is also presented.
Prerequisite(s): ML2100

ML2230 - Histotechnology 3

This course further instructs the student in the theoretical and practical aspects of histotechnology, concentrating on the use of various stains used for pathological diagnosis. Principles of "special" staining including immunohistochemistry will be presented. Students will process, cut, and perform various staining procedures and explore the identification of pigments and artefacts. Microscopic identification of tissue sections will be practiced to aid in the evaluation of staining results.
Prerequisite(s): ML2120

ML2310 - Histotechnology Sim 1

The student will be engaged in a laboratory simulation that will require them to apply all the knowledge they have gained. This course concentrates on the improvement of laboratory skills through practice.
Prerequisite(s): ML2230

ML2311 - Histotechnology Sim 2

Students who successfully complete this course will perform processing, embedding, decalcification, section cutting biological staining and coverslipping working independently and as part of the laboratory team. The student will critically evaluate the blocks and slides produced and repeat those which are not of diagnostic quality.
Prerequisite(s): Successful completion of Semester 6

ML2320 - Molecular Diagnostics Sim 1

This clinical simulation course explores the emerging field of molecular diagnostics through a molecular biology lens. It will expand upon material covered in previous courses and allow students an opportunity to manipulate DNA and RNA in a simulated laboratory setting. Topics will include an overview of molecular biology, common and emerging molecular biology methods including both manual and automated techniques, and an overview of molecular diagnostics.
Prerequisite(s): BL2441, CH2513

ML2401 - Intro to Blood Banking

This course will introduce students to the Canadian blood banking system and provide students with the fundamental knowledge of the common human blood products and blood group systems. The implications of the immune system, human genetics, class of antibodies, and antigens will be examined. Common immunohematology testing methodology will be introduced in laboratory sessions.
Prerequisite(s): ML1035

ML2510 - Transfusion Medicine Sim 1

The course will introduce students to a simulated clinical experience in a Transfusion Science laboratory. The knowledge and skills obtained in ML2401 and ML1520 are applied to "real-life" situations. Prenatal and pre-transfusion testing is performed along with associated investigations of atypical human blood group antibodies.
Prerequisite(s): ML1520

ML2511 - Transfusion Medicine Sim 2

The course is a continuation of ML2510 Transfusion Medicine Sim 1. More in-depth investigations of prenatal and pre-transfusion testing are performed, along with post natal, post transfusion, and cord blood testing. Following completion of this course, students will possess the knowledge, skills and attitudes to enter the hospital clinical phase of the program.
Prerequisite(s): Successful completion of Semester 6

ML2610 - Interdisciplinary Studies
This course concentrates on the integration of the knowledge gained in all courses in the program. Students will challenge five (5) comprehensive examinations over the course of the semester, one (1) examination per week. Students will concentrate on analyzing and solving problems involving all competency categories in each discipline. Students are also expected to rotate through the following laboratories: Public Health Laboratory, Canadian Blood Services, Mass Spectrometry, Immunohistochemistry, Immunology, Flow Cytometry and Clinical Genetics for exposure to advanced diagnostic techniques.
Prerequisite(s): Successful completion of Semester 8

ML3210 - Hematology Practicum
This course allows the student to develop technical competence while reviewing theoretical material from previous semesters. The three week hospital rotation will emphasize clinical procedures and acquaint the student with the hospital operation and administration.
Prerequisite(s): Successful completion of Semester 7

ML3310 - Histotechnology Practicum
This course allows the student to develop technical competence while reviewing theoretical material from previous semesters. The three week hospital rotation will emphasize clinical procedures and acquaint the student with the hospital operation and administration.
Prerequisite(s): Successful completion of Semester 7

ML3510 - Transfusion Practicum
This course allows the student to develop technical competence while reviewing theoretical material from previous semesters. The three week hospital rotation will emphasize clinical procedures and acquaint the student with the hospital operation and administration.
Prerequisite(s): Successful completion of all Semester 7

MM1400 - 2D Digital Graphics
Students will become familiar with "Photoshop" image editing tools and will be introduced to basic colour theory and digital painting techniques.
MM1500 - Introduction to 3D Animation
Students will learn the fundamentals of 3D digital modeling, texturing, and animation. Students will gain a general knowledge of the history and potential applications of the medium, exploring the basics of workflow, organizational structure and specific tool use.

MM1600 - Narrative & Production Design
In Narrative and Production Design students will be introduced to the processes required to realize and present a story in a visual format.

MM1950 - Workplace Professionalism
Students will gain the skills and knowledge necessary to effectively work in a team environment.

MM2310 - Digital Video Techniques
Students will gain an in-depth knowledge of digital video techniques. Topics to be covered include how video works, broadcast video standards, integrating computer and television, shooting and editing video, recording formats, video tips, and video compression.

MM2320 - Digital Audio Techniques
Students will gain a working knowledge of sound capture, audio editing basics and output. Students will also explore audio manipulation and editing techniques for dialog, music and sound effects.

MM2340 - Digital Audio Workstations
This course is designed to provide students with the understanding and skill set required to use various Digital Audio Workstations (DAWs) for daily sound production tasks through practical examples and projects.
Prerequisite(s): SN1160

MM2560 - 3D Texture & Digital Paint
Using standard image processing programs, students will be introduced to the artistic approach and technical aspects of custom texture generation, digital painting and application techniques for 3D.
Prerequisite(s): MM1400
Co-requisite(s): MM2670

MM2620 - 2D Computer Animation
Students will continue with the projection of content covered in previous animation drawing courses into the digital production environment. Emphasis will be on learning 2D animation software tools. Through hands-on activities and assignments students will produce a series of short animation projects using drawn animation skills and digital animation techniques.
Prerequisite(s): VA1161; MM1400

MM2670 - 3D Character Modeling
Students will expand upon the fundamentals of digital modeling presented in Introduction to 3D Animation and will learn the concepts and practical applications of model optimization, animation rigging and weighting.
Prerequisite(s): MM1500

MM2680 - 3D Character Animation
Students will learn to expand upon the fundamentals of digital character animation previously covered in Introduction to 3D Animation. Practical exercises in a variety of animation scenarios, and essential editing and control features will be explored.
Prerequisite(s): MM2560

MM2700 - Multimedia Lab I
Students will work on multimedia applications with formal lab assistance and supervision. In this course students will apply principles and practices covered in the program to practical applications.

MM2710 - Multimedia Lab II
Students will work on multimedia applications with formal lab assistance and supervision. In this course, students will apply principles and practices covered in the program to practical applications.

MM2760 - Animation Design Project
Students will be exposed to a simulation of a professional 3D production and design environment. Through research and collaborative production assignments the students will be expected to produce a fully developed animation project.
Prerequisite(s): MM1600; MM1500; MM2670; MM2560

MM2830 - 3D Post-Production & VFX
Students will explore the concepts and techniques used to digitally create realistic simulations of various environmental conditions and natural phenomenon. This will be achieved by using an industry standard animation package 3D Post-Production and Visual FX.
Prerequisite(s): MM2670

MM2850 - Digital Compositing
In this course, students will learn the concepts, language and fundamental skill sets required for advanced digital image processing and assembling visual effects for film and video.

MM2900 - Portfolio Development
Students will have opportunity to establish the skills of objective, critical self assessment, required to select, collate, and present a body of work that best represents core strengths with a view to identifying and achieving career objectives.
Prerequisite(s): VA1130, MM2670

MN1410 - Special Events Management
This course is designed to give students an understanding of the purposes of holding special events as well as the details involved in planning, implementing and following up of special event activities. Topics covered will include event selection, planning, organizing, marketing, budgeting, as well as overall management. Terminology will be defined and the economic impact of events will be discussed. Examples of actual "special events" will be studied to ensure students develop a realistic appreciation of this subject.

MN1520 - Supervisory Leadership
This course will prepare the student with skills to work in leadership and supervisory positions in a variety of work place settings. Emphasis is placed on the unique challenges facing the supervisor as the first level of management in most organizations. Concepts and theories will be explored through case studies, projects and in-class exercises designed to simulate the daily challenges facing supervisors and leaders.

MN1800 - Integrated Resource Management
This course is designed to provide a working knowledge of sustainable forest management principles, procedures and concepts. Emphasis is placed on resource values, adaptive management, and certification requirements while employing a sound, practical, forest technical approach to sustainable resource management. Students are expected to apply knowledge from all forestry courses throughout the program – especially their GIS skills - to construct a strategic sustainable forest ecosystem management plan for a defined forest area.
Prerequisite(s): FR1331, LW2210, SU3210

MN2600 - Strategic Management •
This advanced course will enable students to be exposed to the inter-relationship of the functional areas of business. The focus will be on strategy development for business management, enabling students to apply organizational, financial, human resource, and marketing decisions to business applications. The student will explore the role of strategic management, external environment analysis, internal resources analysis, functional areas strategies, competitive strategies, corporate strategies, and strategic management in other organizations.
Prerequisite(s): AC2260, HN1240, MR2100, CM2300, EC1110, MA1670

MN3100 - Business Ethics •
This course will examine business ethical principles/concepts as well as the many ethical issues/dilemmas facing organizations today. The course will also explore the various government regulations and laws impacting and restricting business operations as well as stakeholders and corporate social responsibility/governance, ethical issues in the workplace, business ethics and the law, ethical decision making, ethics program and audits, and globalization and emerging trends. Students will have the opportunity to research, analyze, and critique various organizational practices and policies, particularly codes of conduct and codes of ethics.
Prerequisite(s): AC2260, HN1240, MR2100, and PS2340

MN3200 - Performance Management •
This course will examine the importance of an effective performance management system in helping organizations define and achieve long-term and short-term goals vital to its overall success. It will reinforce the concept that performance management is an ongoing process of planning, facilitating, assessing and improving individual and organizational performance. The student will explore the value of performance management and its context; performance management process and strategic planning; setting performance standards; effective performance appraisal systems; performance management and employee development plans; performance coaching; and team performance. Students will have the opportunity to apply various performance management practices and techniques using case studies and application assignments.
Prerequisite(s): HN1240 and PS2340

MP1700 - Control Engineering
Use Laplace Transforms in the design and optimization of industrial control systems. The practical lab component will support the student's understanding and application of the theory.
Prerequisite(s): MA2100

MP2140 - Circuit Analysis I
This course covers advanced topics in A.C. and D.C. circuit analysis as well as an introduction to Two-Port Networks. It will provide the necessary background for learners to enter second year Electrical and Electronics programs.
Prerequisite(s): ET1101, MA1101

MP2170 - AC Circuits and Machines
This course is designed for Instrumentation and Controls learners. It is designed to strengthen the learner's ability to analyze single- and three-phase AC circuits as well as the learner's understanding of AC machines. The course also introduces the learner to motor control diagrams.
Prerequisite(s): ET2100, MA1101

MP2230 - Power System Harmonics
This is an introductory course in power system harmonics covering sources, problems, Fourier analysis and solutions. The laboratory component will further develop and strengthen the understanding and skills related to harmonic and Fourier analysis.
Prerequisite(s): MA2100

MP2300 - AC Circuits
This course is designed to be a continuation of the electrotechnology courses. It is designed to strengthen the student's ability to analyze single and three phase AC circuits as well as reinforce the student's understanding of magnetic circuits. The laboratory work is included as an application of the theoretical concepts and is intended to enhance skills in the use of AC measuring instruments.
Prerequisite(s): ET2100, MA1101

MP2350 - Transformers
This course is designed to be a continuation of the electrotechnology courses. It is designed to expand the student's knowledge of transformers and the associated applications, standards and loading guides. Additionally, it will enhance the student's ability to analyze single-and three-phase AC circuits as well as provide an application for advanced mathematical analysis techniques.
Prerequisite(s): MA2100, MP2300

MP2710 - Welding Power Sources
This course provides a theoretical approach to welding power sources and equipment. Classroom instruction deals with the assessing the operational characteristics of various welding power sources, their installation, maintenance, and fundamental trouble shooting analysis pertaining to weld process control.
Prerequisite(s): ET1101

MP2910 - DC Machines
This course is an introductory course in electrical machine theory. It covers the basics of DC machine theory and provides the necessary background for subsequent courses in electrical machines. It will give the student an appreciation of rotating machinery and through labs, an idea of the type and operating characteristics of the various DC machines.
Prerequisite(s): ET2100

MP2920 - AC Machines
This course follows DC Machines MP2910 and covers topics in AC Machines MP2300. AC generators are studied as well as three-phase and single-phase motors. The theory learned in this course will be applied in future courses in Power Systems and Motor Controls.
Prerequisite(s): MP2910, MP2300

MP3110 - Motor Control Systems

This is an advanced level course designed for Electrical Engineering Technology students. It provides the student with a solid background in designing, installing, and troubleshooting various motor control systems. Upon successful completion, the student should be able to interpret typical control drawings, design automated control solutions for typical industrial applications, install and troubleshoot various control strategies, as well as select and configure protection methods for motor circuits.
Prerequisite(s): MP2920, MP2350, DP2540

MP3150 - Power Devices and Motor Drives

This course is a study of electronic variable speed motor drives. Power electronic device theory is covered as background for drive electronics. AC and DC drives are studied as well as installation, commissioning and trouble shooting.
Prerequisite(s): AE2260, MP3110

MP3170 - Industrial Motor Controls

This course is a study of power systems including single line power schematics, motor controls, relay logic, PLC control and electronic variable speed motor drives. AC and DC drives, with applications in the instrumentation field.
Prerequisite(s): MP2170, ET2100
Co-requisite(s): CE2810

MP3215 - Power Systems: Analysis

This is an introductory course which exposes the student to fundamental design aspects of utility bulk power transmission systems. The student is first introduced to the overall layout and function of each component of typical utility systems. Types and characteristics of overhead line conductors and related hardware are also covered. Sub-transmission and distribution system calculations are introduced, followed by exact and approximate system models used in analysis of medium and long transmission lines. The student is also introduced to basic structural design aspects of high voltage transmission lines. Other major electrical design aspects of high voltage transmission lines are introduced. The course concludes with an overview of the design and construction of high voltage cables for both underground and submarine applications.
Prerequisite(s): MP2920, MP2350

MP3225 - Power Systems: Analysis and Operation

This course covers advanced topics related to electric energy systems, from both system analysis and system operation perspectives. Major topics include unit and plant scheduling, fault calculations, stability analysis, power flow calculations, as well as principles of protection and control. The student is also introduced to high voltage direct current (HVDC) transmission technology.
Prerequisite(s): MP3215

MP3250 - Emergency Standby Systems and Alternative Energy Sources

This course is designed to study emergency standby systems and alternative energy sources. Emergency standby systems will include diesel generator sets, gas turbine driven generators and uninterruptible power supplies. Alternative energy sources covered include gas engines, turbines, waste heat, the sun, the wind, thermoelectric generators, fuel cells and heat pumps.
Prerequisite(s): MP2300, MP2920

MR1100 - Marketing I •

This is an introductory course in the fundamental principles and practices of marketing. The student will explore strategic planning and marketing management, the internet in marketing, marketing research information, consumer markets and behavior, business markets and behavior, market segmentation and targeting, and international marketing. Students will have the opportunity to apply case studies and research various marketing concepts, techniques, and processes.

MR1170 - Culinary Tourism Marketing

This course is an introduction to marketing. Students will use basic marketing skills and relate them to the Culinary Tourism industry. Students will take an idea and build a product. After pricing the product, students will develop an advertising campaign. Using Microsoft Office Publisher, students will create menus, and promotional and advertising materials which are consistent with their brand.

MR1270 - Customer Service

This course focuses on the role of quality customer service in the tourism and hospitality industry. It stresses the importance of a positive attitude; skills for effective listening and interpreting; skills for problem solving; and skills for determining customer wants, needs and concerns. Students will be able to use the skills and knowledge gained in this course to effectively provide a consistent, high level of service to customers in the tourism and hospitality industry.

MR1340 - Marketing for Graphic Design

Students will gain an understanding of the relationship between marketing and graphic design. Students will be introduced to the process of applying marketing principles when translating clients' needs to specific target audiences.
Prerequisite(s): VA1230

MR1500 - Consumer Behaviour

This course introduces the student to the concepts, theories and techniques of consumer behaviour. The student will explore the fundamentals of consumer behavior in order to gain an understanding of the motivation behind purchase decisions. By understanding the consumer's behavior, students are able to make more market focused strategic decisions. Students will have the opportunity to apply their knowledge through the use of case analysis and assignments.
Prerequisite(s): MR2100

MR1600 - Professional Selling •

This is an introductory course in the fundamental principles and practices of professional selling. The course is designed to teach the student about competencies in prospecting, identifying client needs, and dealing with objectives while building client relationships. The student will take part in video-taped selling exercises to review and master their selling techniques. Students will have the opportunity to apply various techniques and practices through case analysis and the use of a sales simulation.
Prerequisite(s): CM1241, CM2200, MR2100

MR2100 - Marketing II •

This is an introductory course in the fundamental principles and practices of marketing. The student will explore product development and lifecycle, price distribution and supply chain management, retailing and wholesaling, promotion, advertising, and personal selling. Students will have the opportunity to apply various marketing techniques and practices using case studies and application assignments.
Prerequisite(s): MR1100

MR2110 - Marketing Methods

This course introduces the concepts and techniques of marketing. Students will learn the principles of modern marketing management and the resources required to successfully promote and market products and services. Students will also take an in-depth look at some of the online tools and emerging technologies available. A major aspect of the course is the development of a marketing plan related to the student's program of studies.

MR2200 - Retailing

This course is designed as an introduction to the concepts, theories, and techniques of retailing. The student will explore the concepts of buyer behavior, strategic retail management, retail design, presentation, and pricing. Students will have the opportunity to apply various retail techniques and practices using case studies and application assignments, and will develop communication skills through class discussions and group activities.
Prerequisite(s): MR2100

MR2300 - Business Research •

This course introduces students to the field of business research through the examination of the various techniques, principles, skills and activities required to create and present an effective survey project. It will familiarize students with the ways that marketing information can be obtained and/or produced and how it can be used to provide insight into markets, customers, products, and business strategies for business decision making purposes. Students will have the opportunity to apply various research techniques and practices using case studies and application assignments culminating in the preparation and presentation of a research report.
Prerequisite(s): MR2100
Co-requisite(s): MA1670

MR2350 - E-Business

This course is designed to introduce the student to the managerial and technical aspects of electronic business and commerce. Students will gain knowledge of the competitive electronic business field and will be equipped to help businesses assess possible opportunities through this rapidly evolving technology. They will be exposed to the concepts of customer relationship management, marketing communications, supply chain management, web analytics, and taxation and ethical Issues related to E-Business. Students will also have the opportunity to apply various E-Business techniques and practices using case studies and application based assignments.
Prerequisite(s): MR2100

MR2400 - Marketing Communications •

This course will examine in some depth the current processes, issues, and practices involved in marketing communications. The student will explore communications as it relates to print, television, radio and other media, and will have the opportunity to apply their creativity in developing tools In these media for local uses wherever possible. The student will also examine how marketing communications affects the purchase and post-purchase behavior of the consumer. Students will have the opportunity to apply various marketing communication techniques and practices using case studies, application assignments and a major project.
Prerequisite(s): MR2100 and CM1241

MR2450 - Services Marketing

This course is designed to enable students to apply the concepts and strategies of marketing relevant to the services sector. The student will explore in some depth various aspects of services marketing, including service productivity, service marketing distribution, service pricing concepts, positioning in service marketing, and service personnel management. Students will have the opportunity to apply their knowledge of these marketing concepts and strategies using a case project, application assignments and presentations.
Prerequisite(s): MR2100

MR2620 - Sales Management
This advanced course will provide the student with the opportunity to explore the practical components of the professional sales manager. The students will deepen their knowledge in the areas of sales management, planning, forecasting, and account relationships, as well as sales force organization, operations, staffing and training. Students will have the opportunity to demonstrate the application of concepts through field work assignments, case analysis, research and presentations.
Prerequisite(s): MR1600

MR2700 - International Marketing
This course is designed to enable students to apply the concepts of marketing in an international context. The student will research and evaluate foreign markets and apply marketing concepts relevant to strategy development in foreign markets identified by exporting and trans-national organizations. The student will have the opportunity to acquire knowledge of international environmental influences, preparation for international markets, and the international marketing mix and apply various international marketing techniques and practices using case studies and application assignments.
Prerequisite(s): MR2100

MR2800 - Business-to-Business Marketing
This course will enable students to apply the concepts of marketing in a business customer context, to research and evaluate business markets, and to apply marketing concepts relevant to strategy development in manufacturing, trade, institutional, and not-for-profit organizations. The student will use analysis of business buyer behavior, segmentation and targeting, business marketing strategy, marketing communications, and personal selling techniques to analyze case studies and complete application assignments.
Prerequisite(s): MR2100

MR3100 - Current Topics in Marketing
This student-led seminar-based course will examine issues, topics and trends in the area of marketing that are of recent and current concern to marketing professionals today. Students will research, develop and present a seminar/paper on selected issues/topics/trends from among the following areas explored in this course: the field/practice of consumer behavior; professional selling; sales management; retailing; E-Business; marketing communications; services marketing; business to business marketing; and international marketing. In addition students will have the opportunity to research and critique a current journal article.
Prerequisite(s): MR1500, MR2300, MR2200, MR2350, MR2400, MR2450, MR2800
Co-requisite(s): MR2620, MR2700

MU1110 - Music & Culture
This course is designed to trace the history of music and to explore the reciprocal relationship between music and culture. The course traces the development of distinct musical genres and illustrates that these genres serve as mirrors of their respective societies.

MU1130 - Music Theory I
This is an introductory course that explores the basic theory and terminology of music. The intent is to provide students with the skills to read and write music while learning the vocabulary of the industry and the use of music notation software for musical productivity.

MU1140 - Musicianship & Recording
This course is designed to provide the student with the skills required in order to be an effective musician in the recording environment, both in the recording studio and when recording live from the stage. Areas of instruction will include proper preparation for the recording studio, recording terminology, effective studio communication, working with a click track, headphone monitoring, recording a studio performance vs. recording a live performance, the multi-track recording, the mixing process, the musician's role in the overall recording process, and mental focus in the recording studio. Classroom sessions will be augmented through hands-on experience in the recording studio.

MU1150 - Music in Media
This course is designed to introduce students to composing and formatting music for inclusion in 21st Century media platforms: Film, Video, Video Games, Software, Internet, Animations, and Mobile Web Applications. Lectures and labs will focus on both the musical and technical aspects of the creation of music for these contemporary mediums.

MU1160 - Cultural Career Management
This course is designed to provide students with an understanding of the elements of a long-term career plan for cultural industry workers. Students will learn about developing skills in the following areas: short, medium and long-term career goals establishment, career competencies, artistic competencies and incorporation of business planning, self-promotion strategies, project management, grant application processes, life-long artistic development and professional association's affiliation. Students will have an opportunity to complete this course with a clear vision of their career plans and the tools necessary to implement these plans effectively.

MU1200 - Songs & Songwriting
This course provides an overview of effective songwriting principles. Students will review these principles and will listen critically to a wide range of selections from a variety of genres. Throughout the course, students will regularly write original songs and have them peer evaluated.

MU1210 - Music Theory II
This is an advanced music theory course which explores harmony and scoring. The intent is to provide students with the skills to read and write music at an advanced level while learning to apply theoretical concepts to the analysis of musical compositions and scores. The use of music notation software will be an important tool in this course.
Prerequisite(s): MU1130

MU1415 - Performance I
This course is designed to introduce essential skills required to perform music live in front of an audience. Introductory performance skills will be implemented and the evaluation will focus on the development of these skills. Students will be graded through peer evaluation of classroom performances and instructor evaluation of both college and public performances, as well as a graded final jury. At the core of this course will be introductory performance techniques in the music industry, professionalism and performance career planning.

MU1420 - Performance II
This course is designed to continue with the student's ongoing development as a performer. More intermediate performance skills will be implemented and the evaluation will become more focused on these intermediate skills. Students will be graded through peer evaluation of classroom performances, instructor evaluation of both college and public performances, and portfolio evaluation, which will take place as part of a final jury. At the core of this course will be intermediate performance techniques in the music industry, professionalism, and performance career planning.
Prerequisite(s): MU1415

MU2010 - Music of Atlantic Canada
This course examines the unique musical styles and trends of East Coast Canadian music. An overview of Canada's music history from 1960-present will provide context and point of reference for analyzing the development of Atlantic Canada's music scene and industry. The course will explore East Coast music including pioneer artists, industry representatives, venues, festivals, and organizations whose contributions have helped to shape today's music community and industry infrastructure.

MU2015 - Online Media Strategies
Online Media Strategies trains the student in a variety of techniques and strategies for the development and distribution of music for online media, a skill set that is relevant for all contemporary musicians. Areas of instruction include topics such as media platforms, content users, streaming and cloud technologies, audio and video considerations, and distribution strategies. The course will culminate in the creation and distribution of the student's own content in the form of a capstone project.
Prerequisite(s): SN1170

MU2110 - Instruments
This introductory course explores the families of instruments used in civilizations. Students will use classification systems to categorize instruments and to identify common operating principles.
Prerequisite(s): MU1130

MU2120 - Traditional Music Studies
This course provides a more detailed analysis of musical genres introduced in the Music and Culture course. Specifically, this course will address traditional genres that have greatly influenced the development of Newfoundland traditional music.
Prerequisite(s): MU1110

MU2130 - Popular Music History
This course explores the origins of popular music, the evolution of media and mass distribution, and traces the impact of popular music upon society.

MU2420 - Performance III
While the student continues to build a strong portfolio and enhances his or her performance skills, they will prepare larger musical events in various genres at a variety of venues. Students will be graded through peer evaluation of classroom performances, instructor evaluation of both college and public performances, and portfolio evaluation, which will take place as part of a final jury. At the core of this course will be current concert and touring trends in the music industry, professionalism and performance career planning.
Prerequisite(s): MU1420

MU2425 - Performance IV
While the student finalizes a strong portfolio and establishes an online presence, performance skills will be crafted to a semi-professional level. Students will be graded through peer evaluation of live performances, instructor evaluation of both college and public performances and portfolio evaluation, which will take place as part of a final jury. At the core of this course will be professional skill evaluation and clearly defined career planning.
Prerequisite(s): MU2420

MX1300 - Digital Imaging I - CR Systems

This course is designed to give the student a comprehensive knowledge of the process involved in the formation of a diagnostic x-ray image generated through the use of radiant energy. Students will learn and practice computed radiography (CR) image capture and will become familiar with processing and archiving the image. Image capture, technical factor selection and calculation, manipulation, display, archiving and retrieval will be practiced in laboratory sessions ensuring the production of optimum images.
Prerequisite(s): Successful completion of 2nd semester

MX1510 - Clinical Radiography I

This clinical course is designed to provide extensive clinical experience to diagnostic imaging students. Applied knowledge of anatomy and physiology; radiographic technique; pathology, radiation protection; patient care and safety; and quality assurance will be reinforced. Emphasis will be placed on intensive demonstrations and application of clinical skills in professional practice. Students will maintain documentation which demonstrates both the quality and quantity of clinical experience acquired, thus ensuring on-going maintenance of competencies developed.
Prerequisite(s): Successful completion of 5th semester

MX1620 - Clinical Orientation I

The clinical orientation of the student during the fourth and fifth semesters is designed to reinforce the theoretical knowledge acquired during the didactic segment of their training program. For three (3) hours each week, students will participate in a variety of basic routine radiographic procedures within a clinical setting and under the direction of a preceptor or clinical instructor. Students will also be afforded the opportunity to enhance their knowledge of various basic and specialized radiographic equipment used in today's modern diagnostic imaging departments. During their clinical orientation, students are also able to apply their understanding of the concepts used in providing quality patient care and radiation protection in a "real life" setting.
Prerequisite(s): Successful completion of 3rd semester
Co-requisite(s): All courses in the 4th semester

MX1621 - Clinical Orientation II

The clinical orientation of the student during the fourth and fifth semesters is designed to reinforce the theoretical knowledge acquired during the didactic segment of their training program. For three (3) hours each week, students will participate in a variety of basic routine radiographic procedures within a clinical setting and under the direction of a preceptor or clinical instructor. Students will also be afforded the opportunity to enhance their knowledge of various basic and specialized radiographic equipment used in today's modern diagnostic imaging departments. During their clinical orientation, students are also able to apply their understanding of the concepts used in providing quality patient care and radiation protection in a "real life" setting.
Prerequisite(s): Successful completion of 4th semester
Co-requisite(s): All courses in the 5th semester

MX2102 - Radiographic Anatomy I

In this course, students will gain a complete understanding of radiographic landmarks and anatomy to perform diagnostic imaging procedures. Students will learn how to recognize, identify and label radiographic images and corresponding radiographic anatomy. The content learned in this course includes surface landmarks, skeletal, appendicular, and axial skeleton (excluding the skull). The course will cover anatomical structures, functions, locations and any other anatomical variants relevant to the aforementioned systems.
Prerequisite(s): BL1600, TM1130

MX2104 - Radiographic Anatomy & Pathology II

This course is a continuation of MX2102. The student will become knowledgeable of the structure, function, location and radiographic appearance of structures in the skull, as well as the following anatomical systems: Cardiovascular, Digestive, Respiratory, Urinary, Reproductive, Nervous and Endocrine Systems. Identification of anatomical structures on the radiographic image, as well as the ability to differentiate between normal and abnormal anatomical appearance in all three dimensions is required. Students will learn how to locate the listed anatomical structures on a diagnostic image, and describe its function, location and radiographic appearance. Upon completion of the course, students will have acquired knowledge of pathological conditions and their radiographic significance when visually presented on cross-sectional images.
Prerequisite(s): Successful completion of 4th Semester of Medical Radiography
Co-requisite(s): MX2121, MX2500, MX2301, MX2201, MX1621

MX2105 - Radiographic Anatomy II

This course is a continuation of MX2102, where the student will become knowledgeable of the structure, function, location, and radiographic appearance of structures in the skull, as well as the following anatomical systems: Cardiovascular, Digestive, Urinary, Reproductive, Nervous and Endocrine Systems. Identification of anatomical structures on the radiographic image, as well as the ability to differentiate between normal and abnormal anatomical appearance in all three dimensions, is required. Students will learn how to locate the listed anatomical structures on a diagnostic image.
Prerequisite(s): MX2102

MX2110 - Radiographic Technique I

This course is designed to introduce the student to the fundamental practices involved in the performance of radiographic imaging, radiographic positioning, and radiographic protocols. Instructional areas include, examination of procedures and protocols, image analysis and critique, and radiation protection. The course will focus on the positioning and protocols of routine and trauma imaging of the appendicular skeleton, axial skeleton, and respiratory system, including an overview on the imaging of pediatric and geriatric populations. As well, the course will review modification of positioning and or protocol in response to patients' conditions and clinical environment.
Prerequisite(s): Successful completion of all semester 3 courses
Co-requisite(s): MX2320, MX2210, MX1620

MX2121 - Radiographic Technique II

This course focuses on routine and trauma radiographic positioning techniques. Students will learn to explain the relationship between imaging protocols and guidelines, and the proper management and care of patients and others when working in the medical radiography field. Students will be able to accurately interpret requisitions, identify radiographic imaging exams required, correctly apply positioning skills, and evaluate images for diagnostic quality. The areas of focus will include skull and facial bones, digestive, urinary, and reproductive systems.
Prerequisite(s): MX2110
Co-requisite(s): MX1621

MX2200 - Image Recording

This course is designed to give the student a comprehensive knowledge of the process involved in the formation of a diagnostic x-ray image generated through the use of radiant energy. Students will learn and practice digital methods of image capture and will become familiar with the many factors that affect the quality of the radiographic image. Image manipulation, display and archiving will be discussed and practiced in laboratory sessions, as well as methods of reducing image artifact, ensuring the production of optimum diagnostic images.
Prerequisite(s): Successful completion of semester 3
Co-requisite(s): MX2310, PH2200

MX2201 - Image Recording: Quality Management

This course is designed to provide the student with a comprehensive knowledge of quality assurance processes associated with image quality management. Performance of specific quality control procedures necessary to maintain a high standard of image quality will be studied. Quality control tests for radiographic, radioscopic, computed tomography, computed radiography, direct radiography, digital networking and archival system, mammography, bone mineral density and accessory equipment will be studied. The importance of faithful adherence to quality control procedures and processes as part of a diagnostic imaging department's overall risk management strategy will be discussed. Students will learn to perform inspection procedures and reject-image analysis as part of the overall quality assurance program.
Prerequisite(s): MX2420, MX2320
Co-requisite(s): MX2520

MX2210 - Digital Imaging II: DDR Systems

This course is designed to give the student a comprehensive knowledge of the process involved in the formation of a diagnostic x-ray image generated through the use of radiant energy. Students will learn and practice digital methods of image capture and will become familiar with the many factors that affect the quality of the radiographic image. Image manipulation, display, and archiving will be discussed and practiced in laboratory sessions, as well as methods of reducing image artifact, ensuring the production of optimum diagnostic images, and best practice to reduce patient dose.
Prerequisite(s): MX1300

MX2301 - Apparatus and Accessories

This course will allow the student to gain a comprehensive knowledge of a wide variety of x-ray generating units. They will acquire the knowledge and skills necessary to operate equipment safely, effectively and efficiently. The students will learn the basic principles of PET and SPECT/Computed Tomography (CT), Magnetic Resonance Imaging (MRI), diagnostic ultrasound, CT, fluoroscopy, mammography and Bone Mineral Densitometry (BMD) units. The student will also learn and apply the basic principles of Digital Radiographic Systems.
Prerequisite(s): Successful completion of 4th Semester
Co-requisite(s): MX2120

MX2310 - Apparatus and Accessories

This course has been developed so that the student will have a comprehensive knowledge of the production of x-radiation that will be useful for medical purposes. The student will understand the use of the x-ray tube, its components, and characteristics that will allow the proper control of the x-ray beam. The student will have a basic knowledge of the electrical circuits that are essential for the production of the type of x-radiation that will result in high quality radiographic imaging. The student will learn about the effective use of grids and collimators to reduce patient dose and improve image quality. The student will have knowledge of methods employed to facilitate heat dissipation during the production of x-radiation, as well as practical skills employed to conserve tube life. The student will be able to identify signs of tube failure.
Prerequisite(s): Successful completion of semester 3
Co-requisite(s): MX2200, PH2200

MX2311 - Apparatus and Accessories

Students are introduced to both theory and practical laboratory skills relating to radiation safety standards and the use of basic equipment in the diagnostic imaging suite. The student will gain knowledge of the production of x-radiation and prime factors that will be useful for medical purposes. This course provides both knowledge and practical skills for the use of the x-ray apparatus, its components and accessory equipment, and characteristics that will allow the proper control of the x-ray beam. The student will learn about the effective use of grids, filtration, and beam restriction to reduce patient dose and improve image quality. Additionally, students will learn how to safely and effectively manipulate basic computed radiography imaging equipment and accessories. Knowledge of methods employed to facilitate heat dissipation during the production of x-radiation, as well as practical skills employed to conserve tube life.
Prerequisite(s): Successful completion of 1st semester
Co-requisite(s): PH2205

MX2320 - Introduction to CT and Specialized Imaging

This course introduces the medical radiological technology student to specialized and advanced imaging equipment. Students will gain knowledge of basic principles and theories, data acquisition, image display and reconstruction (if pertinent), image quality factors, post-processing and data management and archiving. The student will also learn about safe operation practices and reduction of dose for the patient, support persons and operators. Emphasis will be placed on Computed Tomography and Fluoroscopic Imaging.
Prerequisite(s): MX2311
Co-requisite(s): MS2110, MX2420

MX2410 - Patient Care & Safety

This course is designed to provide the student radiographer with the necessary knowledge to provide good patient care in a variety of situations which he/she might encounter in the hospital environment. This course emphasizes basic concepts in general patient care, body mechanics, basic nursing skills, use of common drugs, as well as caring for patients with special needs. During this semester students will also receive instruction in the fundamentals of first aid and basic life support
Prerequisite(s): Successful completion of semester 3
Co-requisite(s): MX2110, MX2102

MX2415 - Patient Care I

This course is designed to provide the student radiographer with the necessary knowledge to provide effective patient care in a variety of situations that they may encounter in the hospital environment. This course emphasizes fundamental concepts in general patient care, body mechanics, basic nursing skills, use of common drugs, venipuncture, oxygen administration, suction technique, as well as caring for patients with special needs. Students will also receive instruction in the fundamentals of first aid, basic life support, mental health, and personal wellness.
Prerequisite(s): BL1600, TM1130

MX2420 - Radiographic Anatomy III

This course is a continuation of MX2105 and includes an in-depth study of the sectional anatomy, physiology, and related pathology of different body regions. The primary focus of this course will include CT imaging of the head, neck, spine, chest, abdomen, pelvis, upper extremities, and lower extremities.
Prerequisite(s): MX2102, MX2105
Co-requisite(s): MX2320

MX2430 - Radiographic Image Analysis I

This course is designed to introduce the student to image analysis, evaluation, and critique. The student will use critical thinking and knowledge gained from previous courses to analyze and critique the quality of produced images and to respond and correct errors if applicable. The student will further utilize the previous knowledge acquired from radiographic anatomy, radiographic technique, image recording and acquisition, to develop the skills to evaluate image quality, technical factors, and results to determine if further actions are required.
Prerequisite(s): Successful completion of 3rd semester courses
Co-requisite(s): MX2110

MX2500 - Radiation Protection and Radiobiology

Combined with their knowledge of physics and human biology, students will learn how to utilize radiation to provide maximum diagnostic information with minimal biological damage to the patient. Students will become familiar with international, national and provincial standards. They will learn how to maintain these standards by the correct use of equipment, accessories and other relevant factors. They will learn how to provide maximum protection from ionizing radiation to the patient, general public, co-workers and themselves.
Prerequisite(s): BL1600, PH2205

MX2505 - CT: Imaging Procedures and Protocols

This course is designed to provide the student with knowledge of computed tomography procedures and protocols used in modern imaging facilities. This course requires a student to integrate previously acquired knowledge and skills in physics, patient care, and sectional anatomy. The performance of specific computed tomography procedures and protocols will be explained and described. The signs and symptoms of many diseases and conditions often observed in clinical practice requiring computed tomography imaging will be explained. Students will also become familiar with interventional CT, CT Fluoroscopy and PET/CT Fusion imaging.
Prerequisite(s): MX2320, MX2415, MX2420

MX2510 - Pathology for Imaging Professionals

This comprehensive course provides an overview of the major pathological conditions frequently encountered and diagnosed using medical imaging. The student will learn about common traumatic injuries, pathologies, and abnormalities, using a body systems approach. Specifically, the systems covered will include skeletal, respiratory, digestive, urinary, reproductive, neurological, cardiovascular, hematopoietic, and endocrine system. Building upon a comprehensive knowledge of radiographic anatomy obtained in previous courses, pathologies covered will include those of a congenital, traumatic, inflammatory, neoplastic, and chronic nature. Additionally, the student will become knowledgeable of the mechanism, signs, and radiographic appearance of the different pathological conditions seen on plain X-ray, as well as cross-sectional radiographic signs seen on CT imaging.
Prerequisite(s): MX2102, MX2105, MX2420
Co-requisite(s): MX2505

MX2515 - Patient Care II

This course is designed to provide the student radiographer with the necessary knowledge and skills to provide high-quality patient and family-centered care. Medical Radiological Technology students will learn to anticipate the needs of patients and their families and respond with appropriate patient care strategies in a variety of care environments.
Prerequisite(s): MX2415, MX2320, MX2110
Co-requisite(s): MX2121

MX2520 - Radiographic Image Analysis II

This course is a continuation of radiographic image analysis I. It is designed to further enhance the student's ability and skills to image analysis, evaluation, and critique. The student will use critical thinking and knowledge gained from previous courses to analyze and critique the quality of produced images and to respond and correct errors if applicable. The student will further utilize the previous knowledge acquired from radiographic anatomy, radiographic technique, image recording, and acquisition, to develop the skills required to evaluate image quality, technical factors, and results to determine if further actions are required.
Prerequisite(s): MX2430
Co-requisite(s): MX2121

MX3250 - Clinical Radiography II

All clinical courses are designed to provide extensive clinical experience to students. Applied knowledge of anatomy and physiology, radiographic technique, pathology, radiation protection and patient care and safety will be reinforced. Emphasis will be placed on intensive demonstrations and application of clinical skills in professional practice. Throughout the entire clinical component of the Medical Radiography program students will maintain documentation which demonstrates both the quality and quantity of clinical experience acquired, thus ensuring on-going maintenance of competencies acquired.

This course will also provide the student with the opportunity to become familiar with related disciplines in order to review patient data such as images and reports from other studies through research and observation of other imaging and therapeutic modalities.
Prerequisite(s): Successful completion of 5th semester

MX3260 - Clinical Radiography III

All clinical courses are designed to provide extensive clinical experience to students. Applied knowledge of anatomy and physiology, radiographic technique, pathology, radiation protection and patient care and safety will be reinforced. Emphasis will be placed on intensive demonstrations and application of clinical skills in professional practice. Throughout the entire clinical component of the Medical Radiography program, students will maintain documentation which demonstrates both the quality and quantity of clinical experience acquired, thus ensuring on-going maintenance of competencies acquired.

This course will also provide the student with the opportunity to become familiar with related disciplines in order to review patient data such as images and reports from other studies through research and observation of other imaging and therapeutic modalities.
Prerequisite(s): Successful completion of 5th semester

ND1110 - Liquid Penetrant Inspection II

This course prepares students to recognize surface flaws in components that appear as a result of capillary action. Flaws become apparent when a colored or florescent dye bleeds out of the component to reveal a crack in its surface. This course provides learners training for a Liquid Penetrant Inspection in preparation for national Non-Destructive Technician Certification through Natural Resources Canada. This training will include both in class and practical training.
Prerequisite(s): TS1520
Co-requisite(s): ND1130

ND1130 - Materials and Process

This course provides students information on metals, metal forming, casting, welding, service conditions, and flaws. It also introduces the physical, electrical, mechanical, and magnetic properties of metals. This course provides learners training for Materials and Process in preparation for nation Non-Destructive Technician Certification through Natural Resources Canada. This training will include both in class and practical training.

ND1210 - Magnetic Particle Inspection II

This course is designed to train learners to use small magnetic particles (i.e. iron filings) to detect flaws in components. For this method to be used the component must be made of ferromagnetic material such as iron, nickel, cobalt, or some of their alloys. This course provides learners training for a Magnetic Particle Inspection in preparation for national Non-Destructive Technician Certification through Natural Resources Canada. This training will include both in class and practical training.
Prerequisite(s): TS1520
Co-requisite(s): ND1130

ND1310 - Industrial Ultrasonics I

This course trains learners to use high frequency sound energy to conduct examinations and make measurements in materials to determine surface or internal cracks or flaws in the materials. This course provides training for a Level I Industrial Ultrasonics NDT Technician Certification.
Prerequisite(s): ND1130, TS1520, MA1080

ND1311 - Industrial Ultrasonics II

This course provides training for a Level II Industrial Ultrasonic's NDT Technician Certification. Ultrasonic's trains learners to use high frequency sound energy to conduct examinations and make measurements in materials to determine flaws in the structure.
Prerequisite(s): ND1310

ND1410 - Industrial Radiography I

This course provides training for Level I Industrial Radiography NDT Technician Certification. It also trains learners to send radioactive energy through a material enabling a negative (Photo) to be produced of that material illustrating internal flaws or cracks. This will include both in class and practical training.
Prerequisite(s): TS1520, MA1080, ND1500, ND1130

ND1411 - Industrial Radiography II

This course provides training for Level II Industrial Radiography NDT Technician Certification. It also trains learners to send radioactive energy through a material enabling a negative (Photo) to be produced that material illustrating internal flaws or cracks. This will include both in class and practical training.
Prerequisite(s): ND1410

ND1500 - Radiation Safety and CEDO

This course introduces learners to radiation safety techniques, ionizing radiation, quantity, and unit. It presents the procedure for monitoring radiation, biological effects of radiation, maximum dosage and effective dosage, dose control, magic numbers, as well as the standard operating procedure for a radioactive site. This course will also provide learners an opportunity to become nationally certified in CEDO - Certified Exposure Device Operator this is a certification that is required for NDT technicians to handle and work with radioactive materials. This will include both in class and practical training.
Prerequisite(s): TS1520, MA1080

OF1100 - Office Management I •

This course will acquaint the student with the significant role of the office employee in business, the importance of effective communication and various communications methods, the use of reference resources, and the need to enhance desirable personality traits and attitudes.

OF1101 - Office Management •

This course examines filing systems and procedures used by office workers, manual and electronic methods of information storage and retrieval, types of microforms, and the need for records retention. Proper procedures for handling mail, planning and organizing business travel, good customer-service techniques, and researching information are also explored. This course will integrate service learning with enhanced networking opportunities and quality community involvement.
Prerequisite(s): OF1105

OF1105 - Personal and Career Growth

This course will acquaint the student with the significant role of the office employee in business, the importance of effective communication and various communications methods, the use of reference resources, and the need to enhance desirable personality traits and attitudes. This course will integrate service learning with enhanced networking opportunities and quality community involvement.

OF1305 - Digital Tools for the Office

This course introduces the learner to social media skills necessary to carry out specific duties of an administrative professional. Students will use their writing skills to communicate with stakeholders by responding appropriately to inquiries. Students will plan and participate in online meetings and create and collaborate using current technologies to facilitate effective communication.

OF2100 - Career Planning Strategies •
This course is designed to further prepare the student in developing career strategies. The focus is on topics such as self-awareness, personal and professional development, planning business meetings, job search skills and preparation for the workforce to enhance the skills needed to have a successful and professional career. This course will integrate service learning with enhanced networking opportunities and quality community involvement.
Prerequisite(s): CM2110

OF2101 - Office Simulation •
In this course, students will complete an office simulation that will require them to perform research, make decisions, and apply time management skills**. Students will apply knowledge they have gained in all previous Office Administration courses.
Prerequisite(s): DM2200, OF2100

OF2300 - MCP Billing •
This course is designed to emphasize the preparation of Medical Care Plan (MCP) claim forms relating to various medical/dental procedures in accordance with the guidelines established by the Newfoundland Medical Care Plan.
Prerequisite(s): TM1100
Co-requisite(s): TM2100

OF2400 - Medical Office Management I •
This course is designed to prepare the student to meet the challenges and responsibilities of working as a medical office administrator (MOA) in a health care setting such as hospital, private clinics, and other health care environments. Upon completion the student will have knowledge of the importance of confidentiality, excellent interpersonal skills to professionally work with patient, visitors, and other health care professions; clinic management; health insurance and funding support; and pharmaceuticals. This course will also provide the student with strong job search skills and interview techniques. The student will participate in a 10-hour service learning component which will provide them with experiential learning in a medical setting.
Prerequisite(s): OF1101, CM2110

OF2401 - Medical Office Management II •
This course further develops the student's ability to effectively and efficiently meet the challenging demands of working as a Medical Office Administrator (MOA) in various medical environments. The student will become certified in the Personal Health Information Act (PHIA), will gain knowledge of patient charts—both paper and electronic medical records, and gain knowledge and experience in meeting planning and minute taking. A time-limited medical office practice simulation program, using the electronic medical record software (MedAccess), is utilized to acquaint the student with typical medical scenarios and to assist in the development of organizational, time management, and decision-making skills.
Prerequisite(s): OF2400

OF2500 - Legal Office Procedures I
This course focuses on the role of the legal administrative assistant and in particular areas as sources of law, memoranda of law, diaries and client records, the Newfoundland and Labrador court system, civil litigation, legal terminology and incorporation procedures for Newfoundland and Labrador. In addition, emphasis is placed on personal development of the student in areas such as professionalism, confidentiality, personality development, human relations, and personal appearance.
Prerequisite(s): OF1101
Co-requisite(s): DM2210

OF2530 - Legal Office Procedures II
In this course, the student is informed of the legal procedures in Newfoundland and Labrador regarding the purchase and sale of real property, beginning with the Agreement of Purchase and Sale and ending with the closing at the Registry of Deeds, Students are exposed to mortgages for purchasing and refinancing real property and to procedures for the purchase and sale of condominiums. The student is also informed of the legal procedures regarding wills, the probate and administration of estates, and family law. Emphasis is also placed on office management skills and personal development in areas such as human relations, poise and current issues at work.
Prerequisite(s): OF2500
Co-requisite(s): DM3250

OF2700 - Career Readiness •
This course is designed to provide students with the opportunity to apply the principles and skills necessary to successfully enter the workplace. The course will reinforce office management concepts, including human relations, and professionalism and positive work ethic, and will assist students as they prepare to make the transition to the workplace.
Prerequisite(s): OF2100 or OF2500 or OF2400

OJ1070 - Work Placement
Students will work in a retail outlet for a ninety-hour (90) period to gain an understanding of a workplace environment. Students will practice food safety and sanitation as well as do basic meat cuts, counter set up, wrapping and display case setup. Students will work with a Meat Manager to develop an understanding of ordering, receiving, scheduling, and general tasks associated with the business.
Prerequisite(s): Completion of Semester 1

OJ1100 - Work Exposure (Certificate) •
The work exposure is a required portion of the program and provides a unique learning experience in a real workplace setting. Students will complete two weeks in industry where they are expected to learn, develop, and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in previous courses in the Business Administration Certificate program. They will become more employable as they enhance technical, team-building, problem-solving, and customer-service skills; increase accountability; and strengthen positive attitudes and work ethic.
Prerequisite(s): Successful completion of all courses in the Business Administration Certificate program with a minimum Grade Point Average of 2.00

OJ1130 - Work Exposure (Certificate)
The work exposure is a required portion of the program and provides a unique learning experience in a real workplace setting. Work exposures must be program relevant and two weeks in duration.

Students will complete two weeks in industry where they are expected to learn, develop, and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in previous courses in the Office Administration certificate program. They will become more employable as they enhance technical, team-building, problem-solving, and customer-service skills; increase accountability; and strengthen positive attitudes and work ethic.
Prerequisite(s): Successful completion of all courses in Semesters 1-3 of the Office Administration Certificate program with a minimum Grade Point Average of 2.00

OJ1300 - On-The-Job Training
This three-week unpaid workplace exposure program is designed to insure that a graduating student has an opportunity of functioning with a real world employment setting. Students are placed with the forest industry or a forestry related agency.
Prerequisite(s): Successful completion of all courses within the Forestry program (must be eligible to graduate).

OJ1301 - On-The-Job-Training
This three-week unpaid workplace exposure program is designed to insure that a graduating student has an opportunity of functioning with a real world employment setting. Students are placed with a Fish and Wildlife related agency.
Prerequisite(s): Successful completion of all courses within the Fish and Wildlife program (must be eligible to graduate).

OJ1550 - Work Exposure - HRM •
The student will gain an appreciation of the real work environment in a business or industry directly related to the area of training. This six-week period will be required in addition to academic content covered. Students will complete six weeks in industry where they are expected to learn, develop, and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in all previous courses in the HRM Diploma programs. They will also further develop employability skills such as working independently, team-building, customer service, work ethic, attitude, and accountability, further enhancing their personal growth.
Prerequisite(s): Successful completion of all courses in Semesters 1 to 5 of the HRM Diploma program with a minimum GPA of 2.0

OJ1560 - Work Exposure - Marketing
The student will gain an appreciation of the real work environment in a business or industry directly related to the area of training. This six-week period will be required in addition to academic content covered. Students will complete six weeks in industry where they are expected to learn, develop, and demonstrate the high standards of behavior and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in all previous courses in the Marketing Diploma programs. They will also further develop employability skills such as working independently, team-building, customer service, work ethic, attitude, and accountability, further enhancing their personal growth.
Prerequisite(s): Successful completion of all courses in semesters 1 to 5 of the Marketing Diploma program with a minimum GPA of 2.0

OJ1580 - Work Exposure - Accounting •
The student will gain an appreciation of the real work environment in a business or industry directly related to the area of training. This six-week period will be required in addition to academic content covered. Students will complete six weeks in industry where they are expected to learn, develop, and demonstrate the high standards of behavior and performance expected in the work environment. Throughout the work exposure experience, the student will apply the skills and knowledge learned in all previous courses in the Accounting Diploma programs. They will also further develop employability skills such as working independently, team-building, customer service, work ethic, attitude, and accountability, further enhancing their personal growth.
Prerequisite(s): Successful completion of all courses in semester 1 to 5 of the Accounting Diploma program

OJ1590 - Work Exposure - General •

The student will gain an appreciation of the real work environment in a business or industry directly related to the area of training. This six-week period will be required in addition to academic content covered. Students will complete six weeks in industry where they are expected to learn, develop, and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in all previous courses in the General Diploma program. They will also further develop employability skills such as working independently, team-building, customer service, work ethic, attitude, and accountability, further enhancing their personal growth.
Prerequisite(s): Successful completion of all courses in Semesters 1 to 5 of the General Diploma program with a minimum GPA of 2.0

OJ1860 - Job Placement I

Learners will gain an appreciation of the real work environment through a six week job placement experience directly related to the area of training. This experience will be required in addition to all academic requirements of the Renovation Technician program. Learners will also further develop employability skills such as working independently, team-building, customer service, work ethic, attitude, accountability, and further enhancing their personal growth. This Job Placement will require learners to practice basic skills learned in the first year of study.
Prerequisite(s): Completion of Semester 1 and 2

OJ1861 - Job Placement II

Learners will gain an appreciation of the real work environment through a six (6) week work placement experience directly related to the area of training. This experience will be required in addition to all academic requirements of the Renovation Technician programs. Learners will also further develop employability skills such as working independently, team-building, customer service, work ethic, attitude, and accountability, further enhancing their personal growth. This Job Placement will require learners to practice skills learned in years one and two of the program.
Prerequisite(s): Completion of Semester 3 and 4 and OJ1860

OJ1900 - Work Exposure - Executive Office Management •

The work exposure is a required portion of the program and provides a unique learning experience in a real workplace setting. Work exposure placements must be program relevant, and six weeks in duration.

Students will complete six weeks in industry where they are expected to learn, develop, and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in previous courses in the Executive Office Management diploma program. They will further enhance their personal growth by developing employability skills such as team-building, customer service, work ethic, attitude, accountability, and the ability to work independently

Please note: Some objectives will be subject to availability at individual work sites.
Prerequisite(s): Successful completion of all courses in semesters 1-5 of the Executive Office Management program with a minimum Grade Point Average of 2.00

OJ1910 - Work Exposure - Legal

The work exposure is a required portion of the program and provides a unique learning experience in a real workplace setting. Work exposure placements must be program relevant, and six weeks in duration. Students will complete six weeks in industry where they are expected to learn, develop, and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in previous courses in the Office Administration (Legal) Diploma program. They will further enhance their personal growth by developing employability skills such as team-building, customer service, work ethic, attitude, accountability, and the ability to work independently. Please note: Some objectives will be subject to availability at individual work site.
Prerequisite(s): Successful completion of all courses in semesters 1-5 of the Office Administration (Legal) Diploma program with a minimum Grade Point Average of 2.00

OJ1920 - Work Exposure - Medical •

The work exposure is a required portion of the program and provides a unique learning experience in a real workplace setting. Work exposure placements must be program relevant, and six weeks in duration. Students will complete six weeks in industry where they are expected to learn, develop, and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in previous courses in the Office Administration (Medical) Diploma program. They will further enhance their personal growth by developing employability skills such as team-building, customer service, work ethic, attitude, accountability, and the ability to work independently.
Prerequisite(s): Successful completion of all courses in semesters 1-5 of the Office Administration (Medical) Diploma program with a minimum Grade Point Average of 2.00

OJ1930 - Work Exposure - RIM
The work exposure is a required portion of the program and provides a unique learning experience in a real workplace setting. Work exposure placements must be program relevant, and six weeks in duration. Students will complete six weeks in industry where they are expected to learn, develop, and demonstrate the high standards of behaviour and performance expected in the work environment. Throughout the work exposure experience, students will apply the skills and knowledge learned in previous courses in the Office Administration (RIM) Diploma program. They will further enhance their personal growth by developing employability skills such as team-building, customer service, work ethic, attitude, accountability, and the ability to work independently.
Prerequisite(s): Successful completion of all courses in semesters 1-5 of the Office Administration (RIM) Diploma program with a minimum Grade Point Average of 2.00

OJ3100 - ASD Work Exposure
The seven-week work exposure is a required portion of the program and will provide a unique learning experience in a real business setting. The College will make every effort to find a suitable placement for students; however, ultimately it is the responsibility of a student to find a placement that satisfies the criteria of the program.

The work exposure will follow the successful completion of the preceding academic term, must be program relevant, and will be minimum of 7-weeks in duration. During the placement, students will be expected to learn, develop, and demonstrate the high standards of behaviour and performance normally expected in a related work environment. For many students, this work exposure may represent the first opportunity to be engaged in the information technology sector, allowing the opportunity to explore and evaluate a variety of software development career paths and help to establish a network of industry contacts. In addition, students will have an opportunity to apply their academic and practical knowledge to further develop their employability and technical skills and enhance their personal growth.
Prerequisite(s): GPA 2.0
Co-requisite(s): CP4265, CP1895, CP1291, CP1945, CP2561, CP4305, CP3565, CP3540

OJ3106 - EWeb Work Exposure •
The seven-week work exposure is a required portion of the program and will provide a unique learning experience in a real business setting. The College will make every effort to find a suitable placement for students; however, ultimately it is the responsibility of a student to find a placement that satisfies the criteria of the program.

The work exposure will follow the successful completion of all academic courses, must be program relevant, and will be minimum of 7-weeks in duration. During the placement, students will be expected to learn, develop, and demonstrate the high standards of behaviour and performance normally expected in a related work environment. For many students, this work exposure may represent the first opportunity to be engaged in the information technology sector, allowing the opportunity to explore and evaluate a variety of software development career paths and help to establish a network of industry contacts. In addition, students will have an opportunity to apply their academic and practical knowledge to further develop their employability and technical skills, and enhance their personal growth.
Prerequisite(s): GPA 1.0
Co-requisite(s): PR3000, CP4475, CP2085, CP2080, CP2075, CP3155, CP3105, CR2800, CP2205, CR1355, CP1505, CP1580, CP2030, CP1895, CP1292, CP1501, CM1401, MA1900 *These courses may have been completed as prerequisites.

OP1320 - Classification •
This course is designed to explore the importance of classification within a recordkeeping system. The topics covered will give the student the fundamentals of a classification scheme; the different types of classification schemes; the current standards and guidelines; and why it is important to maintain a classification scheme within a records system.
Prerequisite(s): OP1390

OP1390 - Records and Information Management I
This course outlines fundamental records and information management (RIM) concepts including: the purpose of RIM and its importance in today's businesses and organizations, program components and management, RIM and privacy codes of ethics, accountability and organization, client services, the information life cycle, appraisal and tools, inventory procedures, records retention and document management systems. Additionally, the student will examine active and inactive records in terms of storage and retrieval, and indexing rules and classification systems.

OP1400 - Records and Information Management I •
This course will provide the student with the fundamental concepts of records and information management. The topics covered include: the role of records management and its importance in today's businesses and organizations, the information management code of ethics, the life cycle of records, records inventory procedures, records appraisal, records retention, document management systems. Additionally, the student will examine active records in terms of storage and retrieval, and indexing rules; and classification systems.

OP1401 - Records and Information Management II •
This course is designed to further explore the records and information management discipline and to teach students the fundamentals of information security. The topics covered will make the students aware of the legislation and litigation procedures involved with information security as well as further develop the students' ability to manage all types of documents. Students will study records control, quality control and improvement, retention requirements, the need for security, the identification of vital records, disaster prevention and recovery as well as controls for inactive and archival records.
Prerequisite(s): OP1390

OP1600 - Electronic Records Management •
This course is designed to give students the knowledge necessary to understand what happens within the life cycle of records. The topics covered will give students an understanding of sources of records and appropriate capture mechanisms, concepts of classification, current metadata standards, search and retrieval approaches, retention and disposal schedules and related concepts such as migration, digital preservation and discovery and disclosure. Students will be given the opportunity to put these concepts into practice using the enterprise content management (ECM) software.
Prerequisite(s): OP1390

PA1125 - EMS Basics
In this course, learners will become familiar with the profession of paramedicine by gaining knowledge on areas such as historical perspective, requirements of a modern EMS system, roles and responsibilities, and legislation pertaining to paramedicine. Learners will evaluate an emergency scene, carry out a patient assessment at the basic level and modify a basic assessment in circumstances where triage is required. Learners will also study information pertaining to ground ambulance operation including performing vehicle safety checks, safe and defensive driving techniques, emergency driving, cleaning and disinfecting equipment, and utilizing basic equipment commonly found in emergency vehicles.
Co-requisite(s): BL1180

PA1210 - Health & Fitness I
This course introduces learners to the concepts of physical fitness and the importance of developing and maintaining a healthy lifestyle. This course also explores support systems and stress including the importance of these aspects to an individual's overall level of health and well-being. Learners are encouraged to establish their own goals and plan for their future fitness needs related to the paramedic field. Learners will identify their areas of physical fitness requiring improvement through completion of a General Physical Fitness Appraisal.
Prerequisite(s): Completion of Pre-Physical Activity Assessment

PA1211 - Health & Fitness II
This course extends the concepts of fitness acquired in Health & Fitness I. While fitness remains a leading concept in this course, learners will further explore aspects such as biomechanics, lifting, transferring and securing patients including maximizing crash protection for occupants of the patient compartment. Learners will also study regulations and legislation relative to workplace safety as well as demonstrate their ability to safely perform the bona fide occupational requirements of a paramedic.
Prerequisite(s): PA1210

PA1230 - Airway Management
This course focuses on the knowledge, skills and abilities of paramedics in assessing and managing the airway, oxygenation and ventilation of patients. Learners will study and practice methods of evaluating the respiratory system and its airway structures through assessment techniques and diagnostic tests. Learners will demonstrate the knowledge and ability to independently conduct therapeutic management of the airway, and provide oxygenation and ventilation at the basic life support level. Learners will also develop the ability to assist advanced care providers in managing the airway, including below the vocal cords, utilizing specialized techniques and equipment.
Prerequisite(s): BL1180, PA1125

PA1280 - Cardiology
This course provides learners with a comprehensive understanding of cardiac physiology and electrophysiology. Learners will focus on acquiring, analyzing, and interpreting electrocardiogram (ECG) tracings for a variety of arrhythmias. They will also determine when a 12-lead ECG may be required and demonstrate the technique of obtaining a diagnostic-quality 12-lead ECG. Finally, learners will demonstrate competence in the management of cardiac arrest and arrhythmias in accordance with established standards.
Prerequisite(s): BL1180, PA1125, Current CPR-HCP or BLS Certificate
Co-requisite(s): PA1460

PA1290 - Community Paramedicine
In this course, learners will explore and participate in expanded roles of paramedic practice into an area commonly referred to as Community Paramedicine. The course consists of both didactic and practical components. In the practical component, learners may accompany a health care worker, such as a Mental Health Counselor, Addictions Counselor, Public Health Nurse, Community Paramedic, and others. Learners will evaluate methods and tools utilized to perform related assessments and referrals for clients in the community setting that are not related to the usual emergency response and transport model.
Prerequisite(s): PA1125

PA1370 - Pharmacology I
This course introduces learners to the fundamentals of pharmacology. This course will provide learners with the foundation for further studies on drug administration in Pharmacology II and in specific patient-types related to the paramedic's scope of practice.
Co-requisite(s): BL1180

PA1371 - Pharmacology II
This course builds on the previous Pharmacology I course and provides learners with the theory and skills for intravenous cannulation, fluid resuscitation, and safe administration of medications commonly used in the scope of practice of a Primary Care Paramedic.
Prerequisite(s): BL1180, PA1370, PA1125

PA1415 - Interagency Relations

This course focuses on interagency relations in field operations. In this regard, learners will develop an understanding of the responsibility of the paramedic in interacting with police, fire, air transport teams, rescue specialists, and experts in managing dangerous goods incidents. Learners will study the special considerations to be given when paramedics are involved with patients being transferred to or from air medical transport, including the practical skills of packaging a patient in preparation for transfer to air transport. Learners will participate in a practical workshop to learn about the safety issues related to providing patient care while extrication tools are being used. Finally, learners will study the responsibilities of the paramedic at crime scenes and accident scenes, and their role in collaborating with law enforcement agents.
Prerequisite(s): Semester 1-3 courses
Co-requisite(s): PA2000

PA1440 - Clinical

The purpose of this clinical placement is to provide learners with the opportunity to become acquainted with health care settings, and to allow learners to gain proficiency with specific skills and tasks in a controlled environment under the supervision of a clinician or preceptor.
Prerequisite(s): Semester 1 and 2 courses, Current CPR-HCP or BLS level certificate (maintained throughout course), Certificate of Conduct (as per agency requirement), Personal Health Information Act Training Certificate, Acceptable Health Assessment Form, Up-to-date Immunizations and Vaccinations, Fit Mask Test Certificate

PA1460 - Medical Emergencies I

This is the first of two courses focused on illnesses and medical conditions that the paramedic is expected to be knowledgeable about during their professional practice. Students will become familiar with the pathophysiology, common management strategies and treatments for a variety of medical conditions. Management strategies and specific interventions used in the pre-hospital environment and within clinical settings will be included. In cases where a specific intervention is within the paramedic's scope of practice, learners will proficiently demonstrate the correct management of that patient-type in a simulated setting. The course also includes foundational knowledge of various diagnostic tests that aid in the diagnosis of a variety of medical conditions.
Prerequisite(s): PA1125
Co-requisite(s): PA1230, PA1280, PA1371

PA1470 - Medical Emergencies II

This is the second of two courses with a focus on illnesses and medical conditions that the paramedic is expected to be knowledgeable about during their professional practice. This course further prepares learners with applied knowledge and skills beyond their previous studies related to the pathophysiology, common management strategies, and treatments for a variety of medical conditions not covered previously. The management strategies and specific interventions students will learn will be used in pre-hospital environments and within clinical settings. In cases where a specific intervention is within the paramedic's scope of practice, learners will proficiently demonstrate correct management of that patient-type within a simulated setting. This course also includes foundational knowledge on various diagnostic tests performed to aid in the diagnosis of a variety of medical conditions.
Prerequisite(s): PA1230, PA1280, PA1460

PA1515 - Special Populations

This course addresses special considerations that are required for assessment and treatment of: patients of specific groups; patients with physical and mental impairments; geriatric and bariatric patients; as well as patients with terminal illness or in palliative care. Learners will also study the pathophysiology, manifestations and pre-hospital precautions for a variety of communicable and infectious diseases.
Prerequisite(s): PA1460, PA1470

PA1520 - Mental Health

Learners will develop an understanding of various mental illnesses including how to relate to patients experiencing a mental health crisis. Learners will also study how to protect their mental health as it relates to their paramedicine working experiences.

PA2000 - Traumatology

The course focuses on the skills necessary to recognize mechanisms of injury including assessment and management of trauma patients. Through this course, learners will demonstrate organized time-efficient assessments, prioritize and perform critical interventions, appropriately package and transport trauma patients. A major focus of the course is the identification of conditions that require immediate transport ("load-and-go") in order to save the patient. Lifesaving techniques are taught or reviewed in practical exercises.
Prerequisite(s): All Semester 1-3 courses
Co-requisite(s): PA1415, PA2020

PA2005 - Obstetrics and Pediatrics

In this course, learners will apply knowledge and demonstrate skills related to the branches of medicine concerned with diseases of the female reproductive system, pregnancy, and childbirth. More specifically, the study of the physiologic and pathologic function of the female reproductive tract, and the care of the mother and fetus throughout pregnancy, childbirth, and the immediate postpartum period are addressed. Learners will also incorporate skills developed in previous courses to complete specialized training in evaluation and resuscitation of neonates and pediatric patients.
Prerequisite(s): PA1460, PA1470

PA2020 - Simulation Lab

This course is designed to prepare learners for practicum placements through synthesizing and integrating knowledge and skills learned in previous and concurrent courses. Learners will demonstrate proficiency assessing, inferring a differential diagnosis, and providing care to various patient-types in a simulated setting using high fidelity simulation. Using a teamwork approach, learners will simulate the events of a paramedic or clinical response. At the conclusion of simulated scenarios, learners who performed lead roles will complete proper documentation in a medical record.

Prerequisite(s): All Semester 1-3 courses
Co-requisite(s): PA2000, PA2005, PA1515, PA1415

PA2025 - Practicum

In this course, learners will proficiently demonstrate knowledge and perform specific competencies, abilities and job tasks at the national occupational competency level for Primary Care Paramedicine, in a field preceptorship.

Prerequisite(s): All courses in Semesters 1-4, Note: Learners must successfully pass Simulation Testing within 6 months of beginning the Practicum (PA2025) course, Current CPR-HCP/BLS level certificate (maintained throughout course)

PA2030 - Patient Assessment

This course provides the opportunity for students to review and master basic assessment skills, which are foundational to the Assessment-Based Management and Clinical Skills Development courses that follow. It also prepares students to employ clinical judgment to make autonomous patient management decisions to a greater degree than previously expected at the Primary Care Paramedic level.

Prerequisite(s): PA2025 or equivalent work experience
Co-requisite(s): PA2035

PA2035 - Diagnostic Techniques •

This course reinforces learners' understanding of basic diagnostic procedures and prepares them to incorporate diagnostic test results in clinical decision-making. It also introduces advanced diagnostic procedures which must be mastered for the learner to function as a member of a Critical Care team.

Prerequisite(s): PA2025 or equivalent work experience
Co-requisite(s): PA2030

PA2040 - Assessment-Based Mgmt. •

As the first of two Assessment-Based Management courses, this course will give learners the knowledge and skills necessary to provide appropriate care to patients presenting a wide variety of neurological, cardiovascular, and respiratory systems disorders. In the lab, learners will gain mastery of the specific skills required to assess and manage patients. Such skills will then be integrated into overall patient management in both the simulated and clinical environments of the co-requisite course, PA2050 Clinical Skills Dev I.

Prerequisite(s): PA2030, PA2035
Co-requisite(s): PA2050

PA2045 - Professional Practice •

This course prepares students to function as contributing members of the paramedic profession, and the healthcare and public safety communities in general. As well, students will learn to take a leadership role in ensuring the continuing quality and propriety of their own paramedic practice and that of the healthcare profession as a whole.

Prerequisite(s): PA2025 or equivalent work experience; HG1680 or HR1681 or equivalent work experience

PA2050 - Clinical Skills Dev. I •

This course provides learners the opportunity to apply knowledge and skills learned in co-requisite PA2040 – Assessment-Based Management I. Students will integrate knowledge and skills to the management of patients from all patient populations in both simulation labs and clinical environments.

Prerequisite(s): PA2030, PA2035, CPR Certification (maintained throughout the course)
Co-requisite(s): PA2040

PA2055 - Evidence-Based Practice •

This course will provide students with a basic understanding of medical research methodologies and an appreciation of the value of research in developing best-practice health-related guidelines. It will also provide the learners with the opportunity to conduct and evaluate research, and to present findings to an audience of peers and supervisors.

PA2060 - Assessment-Based Mgmt. II •

In this second of two Assessment-Based Management courses, learners gain the knowledge and skills necessary to provide appropriate care to patients presenting a wide variety of conditions, disorders, syndromes, injuries, and illnesses across multiple body systems. Learners will gain mastery of the specific skills required to assess and manage patients in the course's practical lab component. These skills will then be integrated into overall patient management in both the simulated and clinical environments of the co-requisite course, PA2065 – Clinical Skills Dev. II.

Prerequisite(s): PA2040, PA2050
Co-requisite(s): PA2065

PA2065 - Clinical Skills Dev. II •
This course builds on the foundational competencies gained in PA2050 – Clinical Skills Development I. As well, in this course learners have the opportunity to integrate the knowledge and skills gained in the co-requisite course, PA2060 – Assessment-Based Mgmt. II into the management of patients from all patient populations in both the simulation lab and clinical environments.
Prerequisite(s): PA2040, PA2050, CPR Certification (maintained throughout the course)
Co-requisite(s): PA2060

PA2070 - Final Practicum
This final practicum is designed to provide learners with the opportunity to synthesize and apply the knowledge, skills, and abilities developed throughout the previous eight (8) semesters of the Advanced Paramedicine Program. Under the supervision of a qualified preceptor, learners will integrate - as appropriate - the full scope of paramedicine competencies. Throughout the semester, they will be exposed to a variety of environments and situations typical of the paramedic profession. Learners will attend a variety of shifts including nights and weekends, ensuring that they are exposed to the conditions in which they will be working post-graduation.
Prerequisite(s): Successful completion of Semesters 1 to 3, with successful completion of Semester 3 Practical Skill Evaluations within the previous 6 months and CPR certification (maintained throughout the course)

PC1100 - Political Science
This is an introductory course in political science. Students are introduced to the discipline of political science and to the structure and role of federal, provincial, and municipal government institutions in Canada. They also study some of the major contemporary political issues in the country.

PC1120 - Foundations for Practice
This course is designed to introduce legal and ethical considerations as well as the delivery of health care. Legislation that pertains to the care and the rights of the client and responsibilities of the health care team members is introduced. Members of the health care team, delegation of care, and the role as the Personal Care Attendant (PCA) are highlighted. There is an emphasis on ethics, the significance of professionalism, and the need to maintain personal and professional well-being.

PC1130 - Workplace Safety
This course is designed to provide knowledge related to government legislation, employer responsibilities, and employee responsibilities for maintaining safety in the workplace. There is an emphasis on the significance of implementing safety measures, recognizing and responding to common workplace safety hazards, and documenting/reporting workplace safety concerns.

PC1141 - Understanding Aging, Dementia & Dying
This course is designed to explore the trends in aging, age related physiological and psychosocial changes, abuse, neglect of the older adult, and provide knowledge for the provision of end of life care. Neurocognitive disorders and illness will be discussed with an emphasis on promoting an optimal level of functioning, promoting client centered care, providing care for families, and promoting self-care for the caregiver. The significance of effective communication, meaningful activities, and the inclusion of family in care is highlighted. Terminal illnesses, death and dying, and the impact of the end of life experience on the client, family and caregiver will be addressed. Concepts of loss and grief, non-pharmacological comfort measures and meeting the needs of the dying client and the family will be discussed. The rights of clients and legal aspects associated with death and dying will be emphasized. Relevant resources that can be used to support client care goals will be identified.

PC1145 - Fundamentals I: Care Basics
This course introduces students to the provision of safe, competent client care in the health care setting. It addresses principles related to personal care, client safety, infection control, body mechanics and safe client/resident handling. Growth and development, along with client care throughout the lifespan, will be highlighted. Opportunities are provided to safely practice fundamental psychomotor skills in a simulated health care environment.

PC1150 - Clinical Practice I
This clinical course provides students with opportunities to integrate theoretical knowledge and apply acquired skills in the clinical practice setting. For this clinical course, long-term care settings will be utilized. Students will be evaluated based upon clinical observations and interactions, participation in clinical conferences, midterm evaluation, and the Clinical Practice Evaluation Form (CPEF) for Clinical Practice I. Prerequisites must be met prior to going to the clinical setting.
Prerequisite(s): Successful completion of all semester 1 courses

PC1210 - Basic Concepts in Medication Awareness
This course aims to provide students with basic knowledge and skills to prepare for and provide safe competent practice in medication assistance. Emphasis is placed on ensuring clients' rights and maintaining safety measures, dignity and respect when assisting with medications. Medication assistance must be carried out in accordance with legislation and employer policies.
Prerequisite(s): Successful completion of semester one courses

PC1220 - Mental Health Concepts

This course is designed to introduce students to basic concepts regarding mental health and mental illnesses. Common mental illnesses and challenges experienced by clients living with mental health issues will be discussed. Students will explore communication and client-centered care strategies in the provision of care for clients experiencing mental illness. Interventions, therapies, and available community resources will be emphasized.
Prerequisite(s): Successful completion of semester one courses

PC1225 - Fundamentals II: Body Systems Approach to Care

This course introduces students to the human body and the basic anatomy and physiology of the various body systems. Age-related changes, common disorders, and client care associated with the body systems will be discussed. Use of appropriate terminology will be emphasized. Students will have the opportunity to safely practice fundamental psychomotor skills in a simulated health care environment. This course builds upon concepts and labs learned in the Fundamentals I: Care Basics course.
Prerequisite(s): Successful completion of semester one courses

PC1230 - Clinical Practice II

This clinical course provides students with opportunities to integrate theoretical knowledge and utilize acquired skills in the clinical practice setting. For this clinical course, long-term care and acute care settings will be utilized in order to promote care of the client across the life-span. Students will be evaluated based upon clinical observations and interactions, participation in clinical conferences, and the Clinical Practice Evaluation Form (CPEF) for Clinical Practice II. Prerequisites must be met prior to going to the clinical setting.
Prerequisite(s): Successful completion of all semester two courses

PC1235 - Clinical Preceptorship

This clinical course provides students with opportunities to further develop and integrate knowledge and skills acquired in courses. For this clinical experience, long-term care agencies will be utilized. In this course each student is assigned to an experienced Personal Care Attendant (PCA). With the guidance and direction of the preceptor, students will participate in the day-to-day routine of the practice setting and become more familiar with the contributions of the PCA to the health care team. This course is designed to help increase student confidence and competence, and to help students further develop their leadership skills. Students will be evaluated based upon clinical observations and interactions, formal evaluation from the preceptor, student/instructor interactions, clinical preceptorship assignment, agency personnel feedback and the Clinical Practice Evaluation Form (CPEF) for Preceptorship that is completed by the clinical instructor. Prerequisites must be met prior to going to the clinical setting. Students will work the same full shifts as their assigned preceptor (days/evenings/nights, 8h and 12 h shifts, and weekends).
Prerequisite(s): Successful completion of all program courses

PD1105 - Prof. Development I

This course is designed to prepare students for their work term placement. The focus is on acquiring the skills of a successful professional employee. The students will learn how to assess and refine their own skills and to match these skills with employment opportunities. Students will prepare resumes and cover letters to utilize for their up-coming placements. Interview skills and the creation of an interview kit along will mock interviews will further prepare the student for placement competitions. They will develop SMART objectives highlighting their achievement objectives for their upcoming placements.

PD1110 - Portfolio Development

Portfolio Development for filmmaking centers on a special project wherein students will create a demo reel, a website and social media pages in order to showcase their work.
Prerequisite(s): FV2070
Co-requisite(s): FV2080

PD1120 - Portfolio Development I •

This is an introductory course for the development and effective use of portfolios. Students will study portfolio types and requirements for a broad range of applications including post-secondary art and design-based programs, arts awards and employment. The importance of portfolio development and its practical application for a career in art, media and design will be further explored through presentations with professionals within the cultural sector. A portfolio of artwork will be created in order to experience portfolio development as part of a continuous process of self-assessment and learning.
Co-requisite(s): PY1150

PD1125 - Portfolio Development II •

This course will develop skills requiring the objective and critical self-assessment to select, collate, and present a body of work that best represents core strengths with a view to identifying and achieving career objectives in specialized art training programs. Students will learn photo documentation skills for two and three-dimensional artwork and how to create a digital portfolio.
Prerequisite(s): PY1150, PD1120

PD1130 - E-Portfolio •
This course is an introduction to the design and development of static websites. Students will create a portfolio website to showcase artwork produced in the Studio Practice course as well as a selection of completed artwork and works in progress from other courses produced throughout the year.
Co-requisite(s): VA1185

PD2110 - Project Coordination
In this course students will identify the elements and components necessary to launch an event such as an exhibition and/or fashion show. Students will learn the tools necessary to develop and implement a project plan complete with checkpoints and documentation.
Prerequisite(s): Successful completion of semesters one through four.

PD2140 - Work Term Seminar
This is a pass/fail course that is to be completed by students during the academic semester preceding graduation. It is designed to allow the students to share the technical aspects of their work term, give students individual work term performance review and to update their career plans and résumés.
Prerequisite(s): PD2310 or PD2130, and clear academic standing in the semester preceding the final semester of the student's program

PD2150 - Project Implementation
In this course students will implement a program-related event plan and corresponding timeline. Students will also learn how to critically evaluate the event, make recommendations, and develop corresponding documentation.
Prerequisite(s): PD2110

PD2310 - Prof. Development II
This course reinforces the topics covered in the first professional development course. It provides an opportunity to reflect on their first work term placement and revise or update their Co-op work term objectives. The course discusses the Information Technology industry, ethics and career best practices. Understanding yourself and learning strategies are discussed to improve student performance. An Experiential Education Model will be introduced as part of the co-operative education process. The student will also receive guidelines on the upcoming work term's Reflective Technical report.
Prerequisite(s): PD1105

PE1100 - Basic Electronics (M, E)
This M and E introductory course in electrical theory covers the basic concepts of electricity, circuit analysis and magnetism. The laboratory work is designed to develop skills in the construction of electrical circuits, use of electrical measuring instruments, and reinforce theoretical concepts.

PE1140 - Basic AC Electronics (M, E)
This M and E course covers basics of A.C. theory and application. Learners will analyze circuits using impedance, admittance and phase to obtain any required circuit quantities as current, voltage, power and frequency. This course examines resonance frequency and phase relating to sinusoidal waveform on capacitors, inductors, and resistors. Electrical measuring equipment such as oscilloscope, frequency generators, frequency counters, VOM, and other electronic measuring devices will be used to enforce theoretical concepts.
Prerequisite(s): PE1100

PE1200 - Basic Aircraft Electrical Systems (M, E)
The purpose of this M and E course is to give the student an overview of aircraft electrical systems. Batteries, generators, alternators and ground power sources will be explained. Basic wiring practices as well as an introduction to wiring schematics and ignition systems will be completed. The practical portion of this course will include all aspects of wire routing, securing, tying, splicing and attaching.

PE1220 - EASA Module 3, 4, 5 Refresher
This course is designed to prepare the student to write the EASA module exams for modules 3, 4 & 5 through the use of practice exercises and review lessons.

PE1230 - EASA Module 5 Top Up
This course is designed to cover items from EASA Module 5 that were not contained in the Aircraft Maintenance Engineering Technician program. The students will receive instruction in data buses and aircraft networks, software management control and fibre optics.

PE1300 - Battery Maintenance (M, E)
This M and E course is designed to have the students deep cycle an Aircraft NI-CAD battery and charge an aircraft lead acid battery.
Prerequisite(s): PE1200
Co-requisite(s): PE1350

PE1350 - Electrical Power Systems (M, E)
This M and E course is designed to provide an in depth study of AC/DC power generation. External Power systems and Electrical Load Distribution will also be addressed in greater detail.
Prerequisite(s): PE1200, DP1840
Co-requisite(s): PE1300

PE2100 - Analog Electronics (M, E)
This M and E course is an introduction to analog application. The student will cover all basic theory in semiconductors, power supplies, amplifiers, and filters. In labs the student will identify symptoms in malfunctioning equipment and perform preliminary checks and eliminate obvious problems. This course will direct the student through a balanced approach of theory and practical experience in constructing circuits from diagrams, component identification and the use of electronic test equipment.
Prerequisite(s): PE1140

PE2105 - Electrical Practices
This course covers the installation of heating and lighting controls, electrical drawings and commercial and industrial demand load calculations.

PE2140 - Digital Electronics (M, E)
This M and E course provides an effective way to teach students the basics of digital methods and techniques. The microprocessor architecture covers the operation, memories, how personal computers work. All labs experiments and troubleshooting techniques will enhance the student concepts of digital electronics in this course.

PE2240 - Hazardous Areas
This course gives the learner an understanding of hazardous area classifications. It includes system design to confine an explosion inside an enclosure, isolate the ignition source and limit the energy flow into the hazardous area. The learner receives hands on training to install and maintain hazardous area equipment.
Prerequisite(s): MP2170

PE2500 - Electrical Practices
This course covers the care and use of hand tools, safety, types of electrical protection, installation of motor starters and relays, drawing electrical schematics, troubleshooting motor control circuits, installation of circuits using sections of the CSA electrical code.
Prerequisite(s): ET1101, CI1313

PE2501 - Electrical Practices
This is an intermediate level course that covers the testing and dismantling of DC and AC motors, as well as an introduction to electrical installations in hazardous locations.
Prerequisite(s): PE2500, MP2910

PE2730 - Industrial Instrumentation Practices
This course is designed to provide the Instrumentation and Controls Engineering Technologist with the knowledge and skills necessary to implement safe systems in an industrial environment. Emphasis will be on OHS, instrument wiring and grounding considerations, fasteners and adhesives, conduit, EMT and tube and fitting installations.
Prerequisite(s): CI1313

PE2801 - Industrial Mechanical Systems
The purpose of this course is to introduce the learners to the typical equipment included in industrial mechanical systems. The learners are expected to use this knowledge to assist with improving the efficiency of common industrial processes, in an effort to improve process performance and product quality. Outcomes covered include the operational description and maintenance of: pumps and compressors, power transmission equipment, material handling systems, seals, bearings, and lubrication systems.
Prerequisite(s): PH1101
Co-requisite(s): FM2102

PE3101 - Electrical Practices (Facility Design)
This is an advanced course intended to introduce students to the broad field of electrical facility design. Major topics include electrical distribution design, exterior lighting and controls, lamp technology, interior lighting and controls, electrical heating and controls and electrical distribution design. This course is followed by a project course (PE4100) to reinforce theoretical concepts and enable students to apply those concepts in the design process.
Prerequisite(s): PE2105

PE4110 - Electrical Practices (Facility Design)
This course is project oriented and is a continuation of subject materials covered in all prior Electrical Practices courses. It involves compilation of a complete electrical facility design inclusive of design calculations, preparation of detailed specifications, as well as a complete set of electrical drawings. The final product shall be sufficiently detailed to enable a hypothetical electrical contractor to prepare a complete tender package in order to implement the work.
Prerequisite(s): PE3101

PG1000 - Mechanical Systems I
This course provides the student with an introduction to various boiler components, early boiler design, valve design and valve maintenance. The student will examine various drainage systems for plants and their effects on the environment including but not limited to noise pollution, gases and vapor pollution, thermal pollution and prevention measures that can be taken for liquid and other pollution.

PG1010 - Mechanical Systems II

This course provides the student with an understanding of Boiler components, drum internals, feed water testing, routine and emergency boiler operation and boiler start-up and shutdown. Students will learn the operating principles of steam and gas turbines, internal combustion engines, lubrication principles, basic electrical, motors and transformers.
Prerequisite(s): PG1000

PH1010 - Physics for NDT

This is an introductory course in physics. It presents information about the nature of the physical world in order to prepare learners for success in the non-destructive testing field. Fundamental elements of physics will be presented to give the learner the science tools required to understand and apply the materials covered in future non-destructive testing courses. Topics covered include force, physical chemistry, waves, sound, light, electricity, heat, radiation, fluid mechanics, and magnetism.
Prerequisite(s): AM1100
Co-requisite(s): MA1081

PH1030 - Physics Refresher for EASA Module 2

This course is designed to prepare the student to write the EASA Module 2 exams by providing a refresher of basic physics along with a knowledge of the nature of matter, statics, dynamics, fluid dynamics, thermodynamics, optics and wave motion and sound.
Prerequisite(s): PH1300

PH1050 - Introductory Physics I

Introductory Physics I is a Comprehensive Arts and Science (CAS) College Transition course. The course focuses on the fundamentals of Physics. It is the first of two Physics courses offered in CAS College Transition. These courses are designed to assist students with further study in Physics at the post-secondary level and entry in College programs.

PH1051 - Introductory Physics II

Introductory Physics II is a Comprehensive Arts and Science (CAS) College Transition course. It is the second of two physics courses designed to prepare students for entry into a number of programs at the College level as well as CAS Transfer: College-University. Following Introductory Physics I, this course continues the exploration of some of the fundamental topics common to all Physics courses.
Prerequisite(s): PH1050

PH1060 - Physics for Aboriginal Students

The purpose of this course is to provide aboriginal students with an introduction to the discipline of physics. Topics will be explored from a First Nations' perspective using a scientific framework. These topics will include: motion, machines/force, and electricity.

PH1100 - Physics •

This is an introductory physics course designed to extend the students' knowledge and understanding of basic physics principles, concepts and applications related to mechanics. The course also extends abilities in data handling, problem solving and experimentation.

PH1101 - Physics •

This is a second semester course designed to extend the students' knowledge and understanding of basic Physics principles, concepts and applications related to kinetic theory, heat, vibrations, sound and light. It also extends abilities in data handling, problem solving and experimentation.
Prerequisite(s): MA1700, PH1100

PH1110 - Foundational Physics

This is an introductory physics course designed to foster students' competency in basic physics principles, concepts, and applications relating to mechanics, fluids, heat, sound, and electricity. Through practical application, students extend their abilities in data handling, data analysis, experimentation, and problem-solving.

PH1120 - Introductory Physics I

Transferable to MUN Physics 1020. This is an introductory course designed to extend student's knowledge and understanding of the basic concepts, principles and applications of Mechanics. Physics I is a college credit course which may be used as a transfer credit in Physics in a Memorial University degree program. Topics covered include kinematics in one and two dimensions, vectors, dynamics, equilibrium, work and energy, and linear momentum.
Prerequisite(s): High School Level III Academic Mathematics with a minimum mark of 70%, or a pass in Advanced Mathematics; or College MA1104 (or MUN Mathematics 1090). MA1104 (MUN Mathematics 1090) may be taken concurrently
Co-requisite(s): MA1104 (MUN Mathematics 1090) may be taken concurrently

PH1121 - Introductory Physics II

Transferable to MUN Physics 1021. Physics II is an introductory level physics course which may be used as a transfer credit course in physics in a Memorial University academic degree program. Topics covered are Fluids, Vibrations and Waves, Sound, Electric Charge and Electric Field, Electric Potential and Potential Energy, Electric Current, D. C. Circuits and Instruments, Magnetism and Geometrical Optics.
Prerequisite(s): PH1120 or MUN Physics 1020 and College MA1130 or (MUN Mathematics 1000). MA1130 (MUN Mathematics 1000) may be taken concurrently.
Co-requisite(s): MA1130 (MUN Mathematics 1000) may be taken concurrently

PH1130 - Physics I

Transferable to MUN Physics 1050. This course is a calculus-based introduction to mechanics. The course emphasizes problem solving. One goal is to extend students' knowledge and understanding of the basic concepts, principles and applications of mechanics, which underlies so much of science. An equally important goal, however, is to develop methods of learning and problem solving which will be of value in whatever endeavors they ultimately choose to pursue. Physics I is a college course which may be used as a transfer credit course in Physics in a Memorial University degree program. Topics covered include Measurement, Kinematics in one and two Dimensions, Vectors, Laws of Motion, Application of Newton's Laws, Work and Energy, Momentum, and Static Equilibrium.
Prerequisite(s): Completion of Physics 2204 and Physics 3204 in high school and enrolment in Mathematics 1130 (MUN Mathematics 1000) concurrently.
Co-requisite(s): Mathematics 1130 (MUN Mathematics 1000), which may be taken concurrently.

PH1131 - Physics II

Transferable to MUN Physics 1051. Physics II is a Calculus-based Physics course. This course is integrated with the use of computers in a workshop environment. Computers will be used to collect and analyze data on simple physical systems. Physics 1130 (Physics I) introduces mechanics. This course focuses on oscillation, wave motion, physical optics, electricity, and magnetism. This course further develops the processes of logical reasoning and critical thinking as applied to Physics in particular, and Science, in general. Physics II is a college credit course which may be used as a transfer credit course in Physics in a Memorial University degree program.
Prerequisite(s): PH1130 (MUN Physics 1050) or PH1120 (MUN Physics 1020) with a minimum grade of 65%, and MA1131 (MUN Mathematics 1001). MA1131 (MUN Mathematics 1001) may be taken concurrently.
Co-requisite(s): MA1131 (MUN Mathematics 1001), which may be taken concurrently.

PH1140 - Applied Physics

This course introduces students to the physical science concepts applicable to the fields of electrical and instrumentation technology.

PH1200 - Physics

This is a second semester algebra based course designed to extend students' knowledge of basic concepts and principles of physics; specifically in the areas of heat, static fluids, waves, sound light and electricity.
Prerequisite(s): PH1100 or PH1120

PH1201 - Physics

This is an intersession course designed to extend students' knowledge and understanding of physics principles, concepts and applications relating to electricity and magnetism.
Prerequisite(s): PH1200

PH1300 - Physics for Aircraft Maintenance

This is an introductory physics course designed to extend the students' knowledge and understanding of basic physics principles as they apply to an aircraft maintenance environment, and applications related to mechanics. The course also extends abilities in data handling, problem solving and experimentation.

PH2200 - Radiation Physics

This is a radiation course designed for medical radiography students, it will give them an understanding of: (1) x-ray physics: the nature of x-rays, the production of x-rays, the interaction of x-rays with matter; (2) radiation dosimetry: radiation exposure, absorbed dose, dose equivalent, effective dose equivalent, detection of radiation and dosimeters.
Prerequisite(s): Successful completion of all semester 3 courses

PH2205 - Radiation Physics

This is a radiation physics course designed for medical radiography students. It will give them an understanding of: (1) x-ray physics: the nature of x-rays, the production of x-rays, the interaction of x-rays with matter; (2) radiation dosimetry: radiation exposure, absorbed dose, dose equivalent, effective dose equivalent, detection of radiation and dosimeters (3) the electrical components of imaging systems.
Prerequisite(s): PH1110
Co-requisite(s): MX2311

PM2130 - Drilling

This is the first of three courses in drilling technology. This course covers all aspects of rig construction and operation and fundamental operations associated with drilling a well for petroleum exploration and production in both onshore and offshore environments.
Prerequisite(s): FT1630, FM2102, CF2540

PM2140 - Well Planning
This is the second of three courses in drilling technology. Students apply and build on the skills and knowledge developed in PM2130 - Drilling to carry out drilling engineering analysis and optimization and well planning.
Prerequisite(s): PM2130

PM2180 - Well Control
This is an advanced course in drilling technology which uses simulation software to perform well control operations. Learners build knowledge developed in two previous drilling technology courses and apply these skills to hands-on well control simulation exercises.
Prerequisite(s): PM2140

PM2185 - Facilities Operations
The laboratory based course will provide students with the concepts and skills required to safely operate and troubleshoot the many types of oil and gas surface facility equipment commonly encountered in industry. Simulation and laboratory work will be used to teach students the fundamentals of start-up, shut-down, control and troubleshooting procedures for surface facility equipment such as separators, absorption units, distillation units and heat exchangers, etc.
Prerequisite(s): PM2520, PM2530

PM2190 - Reservoir Simulation
The course is designed to give an introduction to the fundamental and practical aspects of modern reservoir simulation. Particular emphasis is placed upon the available data and its integration into a data set that reflects a coherent model of the reservoir. These aspects are reinforced with small practical examples run by groups of the course participants.
Prerequisite(s): PM2321

PM2222 - Production
This is the second course in petroleum production, which focusses on the engineering aspects of well production design and operation. This course stresses an interdisciplinary approach to solving production problems by introducing concepts of total quality management.
Prerequisite(s): PM2230, MA1670
Co-requisite(s): PM2520

PM2230 - Completions
This is the first course in petroleum production operations and is an introductory course in Completion Technology operations introducing the major processes and equipment involved in initiating and maintaining production from a wellbore. The course stresses an interdisciplinary approach to well completion by introducing concepts of total quality management. Topics include well completion design for both conventional and horizontal wells, tubular selection including interactions with packers, subsurface control equipment, completion fluids, and perforating oil and gas wells.
Prerequisite(s): FM2102
Co-requisite(s): PM2130

PM2321 - Reservoir Estimates
This is the first of two courses designed to provide an introduction to the principles and practices of petroleum reservoir engineering. The first course serves as an introduction allowing the learner to master the concepts of basic reservoir engineering theory and application, providing him/her with the knowledge and skills to effectively study more complex problem solving techniques covered in the second course.
Prerequisite(s): MA2100

PM2330 - Reservoir Analysis
The second course in this subject area builds upon the basics presented in the first offering. The mechanics of fluid flow in a porous media are covered in detail enabling the student to analyze flow problems for a variety of reservoir boundary conditions. The course also deals in significant detail with the analysis of oil and gas well test data, utilizing the methods of pressure build-up testing and type curve matching.
Prerequisite(s): MA1670, PM2321

PM2402 - Production Logging & Applications
This is a course in the analysis & interpretation of production logging data along with an introduction to the analysis of wellbore cement. The course will overview the operation of production logging tools but will focus mostly on the interpretation of production logging data.
Prerequisite(s): PM2420

PM2420 - Logging and Formation Evaluation
This is a course in interpretation of data obtained from down-hole geophysical tools, i.e. open hole well logs. Concentration will be on the basic open hole logging tools some of which are applicable to cased holes. Physical nature (size, weight, etc.) and theory of operation for the various tools will be dealt with briefly. Interpretation of the data derived from the various tools is the main course goal. New technology/specialty tools that are available will be discussed where time permits.
Prerequisite(s): GE1502, CH2330, GE2510

PM2520 - Oil Facilities
This course presents the basic concepts and techniques necessary to design, specify, and operate oil field processing equipment to separate the produced gas and water from the oil at or near the well site.
Prerequisite(s): CF2540, FM2102, MA2100, PM2321

PM2530 - Gas Facilities
A course which presents the basic concepts and techniques necessary to design, specify and operate upstream gas handling systems and facilities.
Prerequisite(s): PM2520, TD2100, TD2130
Co-requisite(s): CH2335

PM2600 - Intervention
A third course in petroleum production operations introducing the major processes and equipment involved in maintaining production from a wellbore. The course stresses an interdisciplinary approach to intervention and "workover planning".

Various artificial lift methods are introduced which enable depleting reservoirs to sustain viable production rates.
Prerequisite(s): PM2222

PO1000 - Mineral Processing I
The purpose of this course is to familiarize students with various operational elements in an ore processing facility. Students will study particle size measurement, comminution, classification, and concentration methods. De-watering and tailings disposal are also discussed.
Prerequisite(s): CL1110

PO1170 - Industrial Chemical Processes
This course introduces the student to chemical processes found in a variety of industries. Students will obtain an overview of chemical engineering process units and equipment used in a variety of industries. Students will begin to use and analyze block diagrams, process flow diagrams, and piping and instrumentation diagrams.

PO1180 - Unit Operations and Process Design I
Students will be introduced to basic principles of mass transfer operations and their applications in the chemical process industry. Vapor liquid equilibrium is investigated and applied to chemical processes such as distillation. Reaction mechanism and kinetics, and various industrial reactor types will be also covered. Students will examine the operation of different separation processes using both simulation models and pilot units.
Prerequisite(s): CL1110

PO1190 - Natural Gas Processing
Students are introduced to processes common to the oil and gas industry, with a strong focus on natural gas processes. Students examine several processes required to separate and purify natural gas well effluent into valuable products. Sizing and design calculations are performed for common equipment. Pilot plant scale equipment and/or simulators are used to demonstrate the safe start-up, shut-down, and operation of process equipment.
Prerequisite(s): CL1110, PO1180, CH3450

PO1210 - Oil Refining
Students examine processes common to the oil and gas industry, with a strong focus on oil refining. Students examine several processes required to process crude oil into valuable fuel products. Separation processes, conversion processes, treating processes, and other ancillary processes are investigated.
Prerequisite(s): CL1110, PO1180, CH3450

PO1220 - Unit Operations and Process Design II
This course presents the concepts and techniques necessary to design and operate equilibrium-based multistage and continuous contacting unit operations in chemical engineering. It is designed to familiarize the students with the principles and applications of diffusional separation processes involving gas-liquid, liquid-liquid and solid-liquid systems in equilibrium-stage and continuous-contact operations.
Prerequisite(s): PO1180

PO2000 - Mineral Processing II
The purpose of this course is to familiarize the learner with various operational elements in an ore processing facility. It introduces the learner to flow sheets, ore sampling and analysis, metallurgical accounting, test procedures, and quality control. Processes used in hydrometallurgy are also discussed.
Prerequisite(s): PO1000

PO2010 - Water and Wastewater Treatment Operations

This course focuses on operations and management of water and wastewater treatment facilities. Water and wastewater regulations, standards, and collection and measurement techniques are studied. Learners study typical water and wastewater processing systems as it applies to plant operations and will practice various methods/procedures in a lab setting. Storm water systems and best management practices are also studied.
Prerequisite(s): MA1100, CH2451

PR1100 - Website Project I •

The Website Project I course provides students with an opportunity to utilize and demonstrate the tools, knowledge, and skills developed during the first year of the program. Students will design and create a multimedia-rich Web site based on a given set of criteria. Emphasis is placed on creativity of design and effective use of technology.
Prerequisite(s): CM1401, CR1120, CP3160, CR1510

PR1101 - Website Project II •

The Website Project II course provides students with an opportunity to utilize and demonstrate the tools, knowledge, and skills developed during the second year of the Web Development program. Students will analyze the requirements of a substantial Web development project, and design and create a dynamic Web site which incorporates security, database interactivity and server-side Web technologies. Emphasis is placed on developing a creatively designed, standards-compliant Web site which meets the business goals of the project requirements.
Prerequisite(s): Successful completion of all courses in Semesters 1-5 of the Web Development program

PR1200 - CCAT Capstone Project

This course will encompass all skills students have acquired throughout the Cultural Culinary Tourism Arts program. Students will refine their culinary tourism skills as they prepare for a variety of culinary tourism events. Each student will have the opportunity to be the executive chef of their own cultural culinary tourism product and have their skills showcased.

PR1410 - Capstone Project I (Seminar)

The capstone project enables the student completing an Advanced Diploma in the Environmental Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. At the end of this course, the student will have completed a proposal of their capstone project that will be completed in the following academic semester of their program.

Students can commence planning for the course prior to the beginning of Semester 2. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings. This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): All courses in previous academic semesters and a minimum cumulative GPA of 2.0

PR1415 - Capstone Project I (Seminar)

The capstone project enables the student completing a Diploma in the Electrical Engineering Technology (Power & Controls) Co-op 3-Year Diploma Program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. At the end of this course, the student will have completed a proposal of their capstone project that will be completed in the following academic semester of their program.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): All courses in previous academic semesters and a minimum cumulative GPA of 2.0

PR1420 - Capstone Project II

The capstone project enables the student completing an Advanced Diploma in the Environmental Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope.

Students can commence planning for the course prior to the beginning of Semester 2. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR1410 and all courses in previous academic semesters

PR1425 - Capstone Project II

The capstone project enables the student completing a Diploma in the Electrical Engineering Technology (Power & Controls) 3-Year Diploma Program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that learners attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR1415 and all courses in previous academic semesters

PR2170 - Project Management

The purpose of this course is to learn various techniques used to ensure that a project is completed on time, within budget, and with high quality. The student will explore various aspects of project management, such as scope, time, cost, quality and communications and will use project management software to manage a project.

PR2250 - Capstone Project I (Seminar)

The capstone project enables the student completing a Diploma in the Civil Engineering Technology (Co-op) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. At the end of this course, the student will have completed a proposal of their capstone project that will be completed in the following academic semester of their program. Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): All courses in previous academic semesters and minimum cumulative GPA of 2.0

PR2251 - Capstone Project II

The capstone project enables the student completing a Diploma in the Civil Engineering Technology (Co-op) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR2250 and all courses in previous academic semesters

PR2660 - Technical Project and Presentation

This technical thesis project enables the student to demonstrate the application of knowledge and skills developed throughout the program. Students will learn to plan and execute a series of experiments or investigations in a subject area related to the field of study. The student will carry out an in-depth study of a problem, design, or technological application, and fully document and present his/her findings. Emphasis is on long-term planning, organization of information and equipment, record keeping, and presentation of findings. The communication of results, formally and informally, in writing and orally, is stressed throughout. Students taking this course will work independently on a project under the supervision of a faculty advisor in consultation with the communications instructor.
Prerequisite(s): CM1401

PR2700 - Project Management •

This course is designed to give the students a general understanding of project management and the various stages of a project. The main topics will be discussed at an informational level. Topics discussed include, but are not limited to: defining a project, project scope, time management, cost management, quality management, human resource management, communications management and risk management.

PR2740 - Capstone Project I (Seminar)

The capstone project enables the student completing a Diploma in the Instrumentation and Controls Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student will work in teams of two to carry out an in-depth study of a problem, provide design recommendations for a technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. At the end of this course, the student will have completed and presented a proposal of their capstone project for approval that will be completed in the following academic semester of their program.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be co-delivered to the student by a technical instructor and a communications instructor.
Prerequisite(s): All courses in the previous academic semesters and a minimum cumulative GPA of 2.0
Co-requisite(s): CM2800, PR3150

PR2741 - Capstone Project II

The capstone project enables the student completing a Diploma in the Instrumentation and Controls Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student will work in teams of two to implement the PR2740 approved design recommendations. Larger teams may be permitted depending upon project scope. At the end of course, the student will have completed the project fabrication, commissioned the modified or new system, and produced appropriate documentation. The student will present a capstone report to faculty and the student body reviewing the project life cycle and providing recommendations for future effort.

Students can commence planning for the two semester course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR2740 and all courses in previous academic semesters

PR2750 - Capstone Project I (Seminar)

The capstone project enables the student completing a Diploma in the Architectural Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. At the end of this course, the student will have completed a proposal of their capstone project that will be completed in the following academic semester of their program. Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. This course will be co-delivered to the students by a technical instructor and a communications instructor.
Prerequisite(s): All courses in previous academic semesters and a minimum cumulative GPA of 2.0

PR2751 - Capstone Project II

The capstone project enables the student completing a Diploma in the Architectural Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application and fully document and present their findings. Larger teams may be permitted depending upon project scope. Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. This course will be delivered to the learners by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR2750 and all courses in previous academic semesters

PR2760 - Capstone Project I (Seminar)

The capstone project enables the student completing a Diploma in the Computing Systems Engineering Technology (Co-op) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. At the end of this course, the student will have completed a proposal of their capstone project that will be completed in the following academic semester of their program. Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. This course will be delivered to the learners by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): All courses in previous academic semesters and minimum cumulative GPA of 2.0.

PR2761 - Capstone Project II

The capstone project enables the student completing a Diploma in the Computing Systems Engineering Technology (Co-op) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings. This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR2760 and all courses in previous academic semesters

PR2770 - Capstone Project I (Seminar)

The capstone project enables the student completing a Diploma in the Mechanical Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. At the end of this course, the student will have completed a proposal of their capstone project that will be completed in the following academic semester of their program.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be co-delivered to the students by a technical instructor and a communications instructor.
Prerequisite(s): All courses in previous academic semesters and a minimum cumulative GPA of 2.0

PR2772 - Capstone Project II

The capstone project enables the student completing a Diploma in the Mechanical Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR2770 and all courses in previous academic semesters

PR2790 - Capstone Project I (Seminar)

The capstone project enables the student completing a Diploma in the Electronic Systems Engineering Technology (Co-op) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. At the end of this course, the student will have completed a proposal of their capstone project that will be completed in the following academic semester of their program.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): All courses in previous academic semesters and a minimum cumulative GPA of 2.0

PR2791 - Capstone Project II

The capstone project enables the student completing a Diploma in the Electronic Systems Engineering Technology (Co-op) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR2790 and all courses in previous academic semesters

PR2810 - Capstone Project I (Seminar)

The capstone project enables the student completing a Diploma in the Chemical Process Engineering Technology (Co-op) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. At the end of this course, the students will have completed a proposal of their capstone project that will be completed in the following academic semester of their program.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that learners attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): All courses in previous academic semesters and a minimum cumulative GPA of 2.0

PR2811 - Capstone Project II
The capstone project enables the student completing a Diploma in the Chemical Process Engineering Technology (Co-op) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR2810

PR2830 - Capstone Project I (Seminar)
The capstone project enables the student completing a Diploma in the Electronics Engineering Technology Biomedical program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. At the end of this course, the student will have completed a proposal of their capstone project that will be completed in the following academic semester of their program.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): All courses in previous academic semesters and a minimum cumulative GPA of 2.0

PR2831 - Capstone Project II
The capstone project enables the student completing a Diploma in the Electronics Engineering Technology Biomedical program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope.
Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR2830 and all courses in previous academic semesters

PR2880 - Capstone Project I (Seminar)
The capstone project enables the student completing a Diploma in the Petroleum Engineering Technology (Co-op) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. At the end of this course, the student will have completed a proposal of their capstone project that will be completed in the following academic semester of their program.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): All courses in previous academic semesters and a minimum cumulative GPA of 2.0

PR2881 - Capstone Project II

The capstone project enables the student completing a Diploma in the Petroleum Engineering Technology (Co-op) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR2880 and all courses in previous academic semesters

PR2890 - Capstone Project I (Seminar)

The capstone project enables the student completing a Diploma in the Geomatics/Surveying Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. At the end of this course, the student will have completed a proposal of their capstone project that will be completed in the following academic semester of their program.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): All courses in previous academic semesters and a minimum cumulative GPA of 2.0

PR2891 - Capstone Project II

The capstone project enables the student completing a Diploma in the Geomatics/Surveying Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR2890 and all courses in previous academic semesters

PR3000 - Applied E-Commerce Website Project •

This applied project course enables students to demonstrate the application of knowledge and skills developed throughout their program of studies. Students taking this course will work in teams on a project, under the supervision of a faculty supervisor, and will perform the following:
a. an in-depth analysis of a problem that requires an e-commerce or enterprise technical solution
b. a design of the problem solution
c. implementation of the problem solution
d. presentation of their solution

The focus of this course is on presenting a clear concise solution with brief supporting documentation. This project can be one from industry or one assigned by the College. If it is an industry driven project, prior faculty approval must be provided to ensure it meets the scope, depth and focus required to meet the course outcomes.

The Applied E-Commerce Website Project course provides students with an opportunity to utilize and demonstrate the tools, knowledge, and skills developed during their program. Students will analyze the requirements of a substantial development project, design and create a dynamic e-commerce solution security, and database interactivity. Emphasis is placed on developing a creatively designed, standards-compliant solution which meets the business goals of the project requirements.
Prerequisite(s): CP2080, CP2075, CP3155, CP3105, CR2800, CP2205, CR1355, CP1505, CP1580, CP2030, CP1895, CP1292, CP1501, CM1401, MA1900

PR3110 - Petroleum Risk Assessment

The course is designed to enable the student to complete an Offshore Petroleum Risk Assessment and Analysis to meet safety standards in the Petroleum industry. The purpose of this course is to ensure adequate measures are taken to protect people, the environment and assets from harmful consequences of the activities being undertaken within the petroleum and offshore industry. This includes but is not limited to health, environment and safety.

Prerequisite(s): MA1670, PM2330
Co-requisite(s): PR2881

PR3150 - Project Management and Financial Analysis

This course introduces students to the topics of project management and financial analysis, by the introduction of the concepts, tools and techniques of formal project management and financial analysis. Topics include: project management, risk management, project scheduling, concepts of financial management, economic decision making, analysis of alternatives, and depreciation. Students are introduced to the use of project management software.

Prerequisite(s): MA1101 or MA1140

PR3600 - Capstone Project I (Seminar)

The capstone project enables the student completing a Diploma in the Industrial Engineering Technology (Co-op) program to demonstrate the application of knowledge and skills developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. At the end of this course, the student will have completed a proposal of their capstone project that will be completed in the following academic semester of their program.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings.

This course will be co-delivered to the students by a technical instructor and a communications instructor.
Prerequisite(s): All courses in previous academic semesters and a minimum cumulative GPA of 2.0

PR3620 - Capstone Project I (Seminar)

The capstone project enables the student completing a Diploma in the Mechanical Engineering Technology program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope. At the end of this course, the student will have completed a proposal of their capstone project that will be completed in the following academic semester of their program.
Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be co-delivered to the students by a technical instructor and a communications instructor.
Prerequisite(s): All courses in previous academic semesters and a minimum cummulative GPA of 2.0

PR3621 - Capstone Project II

The capstone project enables the student completing a Diploma in the Mechanical Engineering Technology (Manufacturing) Co-op program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope.
Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is **mandatory** that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR3620 and all courses in previous academic semesters

PR3630 - Technical Thesis (Seminar)
The technological thesis enables the student completing a diploma in the Mechanical Engineering Technology (Manufacturing) Co-op program to demonstrate the application of knowledge and skills developed throughout the program. Students taking this course will work independently on a project, under the supervision of a faculty supervisor. They will carry out an in-depth study of a problem, design or technological application, and fully document and then orally present their findings. Projects must address the social, economic, financial, environmental, legal and ethical considerations where relevant.
Prerequisite(s): Semester 7 complete and GPA of 2.0

PR3724 - Technical Thesis
The technical thesis enables the student completing a Diploma in the Mechanical Engineering Technology (Manufacturing) Co-op program to demonstrate the application of knowledge and skills developed throughout the program. Students taking this course will work independently on a project, under the supervision of a faculty supervisor. They will carry out in-depth study of a problem, design or technological application, and fully document and then orally present their findings. Projects must address the social, economic, financial, environmental, legal and ethical considerations where relevant.
Prerequisite(s): CM1401

PR3725 - Capstone Project II
The capstone project enables the student completing a Diploma in the Industrial Engineering Technology (Co-op) program to demonstrate the application of skills and knowledge developed throughout the program. Students taking this course will work with minimal supervision on a project, under the guidance of a faculty member. The student can work independently or in teams of two to carry out an in-depth study of a problem, design or technical application, and fully document and present their findings. Larger teams may be permitted depending upon project scope.

Students can commence planning for the course prior to the beginning of the final year of studies. Since the project and report are to be prepared through independent study, the assigned hours represent only part of the time that students are expected to allocate to the course. Regular meetings with a faculty supervisor will be scheduled within the assigned hours and it is mandatory that students attend these meetings.

This course will be delivered to the students by a technical instructor in collaboration with a communications instructor.
Prerequisite(s): PR3600 and all courses in previous academic semesters

PS1100 - Psychology I ®
This is an introductory psychology course. Current experimentation and the various methods of psychological research are emphasized throughout the course. The topics to be covered include: psychology as a science, learning, perception, sensation, personality, and human development.

PS1130 - Psychology I •
This is an introductory psychology course. Current experimentation in the field and the various methods of psychological research are emphasized throughout the course. This course introduces the student to topics such as psychology as a science, brain and behavior, human development, sensation and perception of stimuli, states of consciousness, learning, and memory.

PS1140 - Psychology I
This is an introductory psychology course. Current experimentation in the field and the various methods of psychological research are emphasized throughout the course. This course introduces the student to topics such as psychology as a science, brain and behavior, human development, sensation and perception of stimuli, states of consciousness, learning and memory.

PS1145 - Psychology II
This is the second part, and hence a continuation of the introductory psychology course. The course introduces students to psychological theory and research in the areas of cognition, intelligence and creativity, human emotion, motivation, stress and its impact on health, personality, psychological disorders and their treatments, and social psychology.
Prerequisite(s): PS1140

PS1150 - Introduction to Psychology I •
This course introduces students to psychological theory and research in the areas of neuroscience, human development, learning and memory, sensation and perception, and states of consciousness. This course is transferable to MUN Psychology 1000.

PS1151 - Introduction to Psychology II •
This course provides an introduction to psychological theory and research in the areas of human cognition and emotion, motivation, personality, psychological disorders and treatment, social psychology, health and stress, and sexuality. This course is transferable to MUN Psychology 1001.
Prerequisite(s): PS1150 or MUN Psychology 1000.

PS1200 - Drugs & Behaviour
This course examines the relationship between drugs, especially psychoactive substances, and their influence on behaviour. The focus is less on the pharmacology of drug use and more on the impact of drugs on users and their families. Basic concepts and terminology pertaining to substance abuse will be defined. Emphasis will be placed on theories of dependency, pharmacological concepts, major drug classifications, prevention, and treatment paradigms.

PS1240 - Understanding Addictions
This course takes a detailed look at how alcohol and/or drug addiction affects an individual. First, it examines the nature of dependency on a physical, psychological, and emotional level. This information will then be utilized to teach students basic assessment, intervention, and counseling techniques. Students will also receive a detailed understanding of the process of change, relapse prevention, and stages of recovery in addiction. They will also learn how addiction impacts upon a family. Students will also acquire more knowledge on how addiction affects specific populations (youth, women, seniors, Aboriginal persons, and adult children of alcohol/drug users).
Prerequisite(s): PS1145
Co-requisite(s): PS1200

PS1330 - Organizational Behaviour
This course is designed to provide an understanding of the basic principles underlying workplace behaviour with particular emphasis on the applications for effective supervision in the contemporary workplace.

PS1420 - Health Care Organization and Structure •
This course is an introduction to the study of organizational behaviour and structure within the healthcare system. Students will familiarize themselves with the healthcare system, specifically the roles that directly influence structure and function. Students will examine individual and inter-disciplinary relationships and roles of health professions within the hospital organizational structure. Students will also gain an understanding of the importance of conflict resolution, stress management, and how professionalism guides a healthcare practitioner's ability to work in the demanding and dynamic environment of healthcare.

PS2200 - Developmental Psychology
This course familiarizes students with basic concepts, principles, and theories of human development and examines each stage of development from conception to adolescence.
Prerequisite(s): PS1145

PS2340 - Organizational Behaviour •
This is an introductory course in the study and practical application of organizational behavior. Through the use of workplace examples and the analysis of the interrelated levels of individual behavior, group functioning, and organizational structure, students will examine how employees within organizations achieve both personal and organizational goals. Topics such as motivation, leadership, group dynamics, and organizational communication are studied.

PT1110 - Reciprocating Engine Fundamentals (M)
This M course will provide students with the basic knowledge of the operation of aircraft reciprocating engines and engine components. Students will test, troubleshoot, repair, and adjust power plants and related systems. Students will perform engine ground-runs and basic aircraft servicing
Prerequisite(s): GM1120, GM1130
Co-requisite(s): PT1115

PT1115 - Reciprocating Engine Fundamentals (M, E)
This M and E course will provide students with the basic knowledge of the design, construction and theory of operations of aircraft reciprocating engines.
Prerequisite(s): GM1120, GM1130
Co-requisite(s): PT1110

PT1200 - EASA Module 15 Top Up
This course is designed to cover items from EASA Module 15 that were not contained in the Aircraft Maintenance Engineering Technician program. The students will receive instruction in: auxiliary power units (APU's), powerplant installation, along with engine storage and preservation.

PT1210 - EASA Module 15, 17 (A) Refresher
This course is designed to prepare the student to write the EASA module exams for modules 15 & 17A through the use of practice exercises and review lessons.

PT2120 - Reciprocating Engine Systems (M)
This M course will provide the student with knowledge of reciprocating engine internal systems, their design, construction, operation, and maintenance. Students will test, troubleshoot, repair, adjust, remove and replace reciprocating engine systems.
Prerequisite(s): PT1110, AS2520

PT2121 - Reciprocating Engine Overhaul (M)
This M course will provide the student with the knowledge of reciprocating engine inspection removal, installation, overhaul and maintenance procedures, so that he can develop sound maintenance practices. Students will test, troubleshoot, repair, adjust, remove and replace power plants and related systems.
Prerequisite(s): PT2120

PT2210 - Turbine Engine Maintenance (M, E)
This M and E course is designed to provide the student with a comprehensive knowledge of turbine engine design and operation. Students will be dismantling a turbine engine and required to identify each component.
Prerequisite(s): GM1120, GM1130

PT2240 - Turbine Engine Systems (M)
This M course will provide the student with a detailed description of turbine engine systems and their installations. Particular attention is paid to the lubrication and fuel control systems of the Pratt and Whitney PT6 and Allison 250 engines. Helicopter application of turbine engines is also discussed in detail.
Prerequisite(s): PT2210

PW1112 - Mechanics & Dynamics
Elementary Mechanics focuses on the behavior of physical objects, particularly when these objects are subject to external forces. The study of mechanics includes statics, where objects placed under load remain stationary; or dynamics, where objects are subject to motion due to external forces. Once there is an understanding of these physical events, they can be interpreted in mathematical form. The mathematical expression may then be used to solve everyday problems. The purpose of this course is to develop confidence describing the physical world, using mathematical expressions.

PW1113 - Phys. & Chem. Thermodynamics
This course describes and defines physical and chemical systems and explains how atoms and molecules combine to form compounds, mixtures and solutions. It then moves to thermodynamics properties such as temperature, pressure and specific heat within the context of two important thermodynamic laws. Of special importance is the effect of heat transfer fluid on heat exchanger performance and maintenance. The primary focus is on the main working fluid in energy plants: water in its liquid and gaseous states. To understand the thermodynamics of steam, this course introduces the Steam Tables; its use and applications is essential for Power Engineers.

PW1114 - Canada Power Eng. Leg. & Reg.
Power Engineers deal with regulations that govern all aspects of their work, the equipment they use and how work is performed. In Canada, there are federal, provincial, territorial and municipal government jurisdictions. The jurisdictions are responsible for adopting, enacting and enforcing codes, standards and legislation. Some legislation applies only provincially or territorially, while other legislation applies across the country. It is the responsibility of all Power Engineers to be familiar with and to understand the applicable regulations for the jurisdictions they work in. The course also introduces the various Codes and Standards that apply to the Power Engineering profession and explains why they were developed and how they are maintained.

PW1115 - Intro to Plant & Fire Safety
The need for operational safety of energy plants needs to be considered in all phases of their life cycle. The use of appropriately developed and properly installed technology is the key to the safe and efficient operation of all plant processes. A well thought out safety program integrates equipment and technology operation with operator understanding of conditions and hazards to protect both equipment and system from failure.

PW1116 - Plant Operation & Environment
This course will examine specific effects human emissions have on the eco-system. Topics include how greenhouse gases affect global temperatures and how noise affects the environment. Perhaps the most important concept in this course is "attitude": both individual and collective. The best way to perform a job is not necessarily the "way things have always been done." The proper attitude towards plant operations and the environment is one of continuous examination and improvement.

PW1117 - Mat. Science & Welding Tech.
This course introduces the basics of boiler and pressure vessel construction. It shows how to identify, categorize and select materials. These are based on properties that are the most useful such as strength, temperature resistance and toughness. Also discussed is how engineering materials develop their properties. Soldering, brazing and welding methods are addressed. It concludes by covering common weld defects and non-destructive testing methods used by boiler and pressure vessel inspectors to find defects.

PW1118 - Fluid Handling Technology
Piping and valves are essential components in an energy plant. Without them the plant simply could not operate. This course will discuss piping materials, expansion joints, water hammer, insulation and types of valves their construction & operation.

PW1119 - Electro-Technology Concepts

Society has advanced greatly due to its ability to generate, distribute and utilize large amounts of electric power. Power Engineers play a key role in the generation, distribution and utilization of electricity. This course, by introducing basic electric and electro- magnetic theory provides fundamental information not only for understanding the generation, distribution and utilization of electric power, but for further studies in instrumentation, control and energy management.

PW1122 - Energy Plant Inst. & Controls

Instrumentation involves the measurement, evaluation and control of various energies, so that energy exchange achieves the desired outcomes. This course begins with fundamental control theory, process measurement and basic components used in control systems. It then moves on to cover different systems used by industry today to achieve process control, programmable logic controls, electronic controls and electric controls.

PW1123 - Industrial Communications

Any language or form of communication requires rules that are understood by both the initiator and the audience. Standard rules also apply when creating and interpreting plant drawings. These rules are usually presented with the use of symbols, which have an agreed upon meaning. Some symbols are universally agreed upon and some are exclusively used in one type of drawing. As well, plants themselves may have a unique set of communication tools. From designers and construction personnel to operations and maintenance professionals, these drawings are valuable communication tools that help every team member understand what the plant does and how it does it.

PW1124 - Introduction to Boiler Designs

Industries that use boilers are so varied in their process fluid requirements that it would be impossible to design one boiler to meet all their needs. For this reason, there are boilers designed to meet practically every specification. The design and development of boilers has proceeded over a few hundred years. Advances in design and technology have led to the present modern-day boiler. These historical advancements inform present-day boiler design. This course examines the historical development of boilers and the different boiler varieties available today.

PW1125 - Elements of Boiler Systems

Good boiler design, construction and installation ensure that heat generation and transformation is efficient, safe and reliable. Successful plant operations depend on the design of the boiler and its associated systems. This is centered on the ongoing creation of heat, its transfer to external processes and boilers support systems.

PW1126 - Power Ops. & Maint. Lab I

Students will have the opportunity to perform lab projects while safely being introduced to a variety of hand tools. Plant maintenance and equipment tasks such as gauge glass replacement, flue gas analysis and various piping procedures will be carried out. This course will provide the student with a basis for safety and environmental awareness of power plant and boiler operation. Students will experience startup and shutdown of fire tube and water tube boilers with emphasis on operation of equipment and their functions in the plant cycle. Logging of plant parameters will be carried out.

PW1201 - Lubrication & Bearings

Bearings are fundamental components of all machines with moving parts. Properly installed, maintained and lubricated bearings is essential to keep a machine operating smoothly, safety and efficiently. This course covers bearing types, bearing installation, principles of lubrication, lubricant types and methods of bearing lubrication.

PW1202 - Pumps and Compressors

This course introduces pumps and their use as a modern industrial plant. As the course moves along, it will familiarize the student with the types, working principles and construction of a variety of pumps and compressors. The operation, maintenance and troubleshooting will be discussed and illustrated.

PW1203 - Boiler Safety Devices

This course explores the design and operations of pressure relief valves, firing controls, low water level instruments and a variety of boiler fittings. Because they must comply with jurisdictional regulatory requirements they will be designed and operated in alignment with a variety of national and international codes including; ASMW Section I, ASME SECTION IV, ASME Section VIII, ASME CDS-1 and CSA B51. The use of devices directly attached to the pressure part of a boiler, called fittings, are also regulated under the same codes as boilers themselves. They are necessary for the efficient and safe operation of the boiler and other pressure vessels.

PW1204 - Plant Operation & Maintenance

This course introduces the elements of boiler and auxiliary plant operations. It begins with typical preparatory steps for placing a power plant in service. It then follows the startup, routine operations and shutdown of both heating and power boiler plants. The importance of shift handover, performing rounds, documenting conditions and safety is stressed throughout. As well this course performs a detailed examination of how to recognize and respond to various adverse conditions that arise on occasion. The processes and procedures discussed in this course form the core Power Engineer's duties and responsibilities.

PW1205 - Energy Plant Maintenance

A boiler maintenance program is a key element to safe and efficient boiler operation. These programs include not only repairs but preventive maintenance as well. The repair and preventative maintenance tasks covered in this course are designed to achieve a reasonably long and safe useful boiler life. These tasks also ensure that the boilers operate as intended.

PW1206 - Water Treatment

This course introduces the basic concepts of water treatment and the various plant systems with particular treatment needs. The challenge in any water quality process is that water is a "universal solvent". As a result, all sources of water contain various natural concentrations of dissolved minerals and gases, in addition to suspended solids and biological matter. The relative amount of each of these impurities varies by geographic location and season. This makes choosing appropriate water treatment a complex decision.

PW1207 - Prime Movers & Heat Engines

The systems discussed in this course explore applications of thermodynamic theory. Power Engineers must understand the technology, systems and equipment used to generate power in thermal plants. The Power Engineer must also comprehend how thermal energy is converted into other forms of energy. A basic understanding of how prime movers convert heat to work is central to this knowledge. This course introduces the principles behind the operation of prime movers, including many familiar types of heat engines.

PW1208 - Plant Auxiliary Systems

This course introduces the various auxiliary support systems for building and power plant operators.

PW1209 - Compress. & Absorption Refrig.

Across Canada, the provincial and territorial jurisdictions agree that refrigeration plants presents potential public safety hazards that Power Engineers are best suited to handle. Therefore, Power Engineers under the various provincial and territorial regulations, operate large building cooling systems, arena ice-making machinery and industrial refrigeration plants. Refrigeration is an important element to a variety of industrial sectors. This course emphasizes the use of "natural refrigerants" such as ammonia and $CO2$.

PW1211 - HVAC for Facility Operators

Nearly all buildings contain HVAC systems to improve human comfort. Power Engineers, as qualified operators, are often charged with the management of air conditioning systems within their facility. This course describes the thermodynamics and operating processes, equipment and auxiliaries used to condition air for human comfort and health.
Prerequisite(s): PW1209

PW1212 - Bldg. Enviro - Systems & Ctrl.

In today's environment, energy costs are high and technological choices are increasing. Building owners, tenants and occupants demand a high level of comfort, healthy environment and more efficiency. New building materials, sophisticated infrastructure requirements and the increasing economic impact all expand the duties of the facility operator and make the role more demanding. Qualified Power Engineers, who are also the facility operators, must have basic knowledge of how these systems are designed. Also how adjustments to HVAC control systems affect the efficiency of human comfort systems.

PW1213 - Ind. Plant Configurations

This course looks at each of these plant types in identifying common processes and equipment that Power Engineers play a role in managing or operating plants. Although many Power Engineers are employed in plants and processes dedicated solely to the production and use of steam, such as thermal power stations and direct heating / cooling plants, the majority of Power Engineers work in industries which use steam or heat as part of a production process. Examples of these types of plants within the energy intensive sectors can include hot oil, wood and biomass processing, liquid hydrocarbon processing, natural gas plants, food processing or metallurgical processing plants.

PW1302 - Power Ops. & Maint. Lab II

In this course students will have the opportunity to carry out power lab projects while being safely introduced to a variety of hand tools. Plant maintenance and equipment tasks such as gasket making, valve and steam trap maintenance will be performed along with a variety of lab operations. Students will be required to practice lockout procedures for equipment and components in accordance with NL provincial regulations. The student will be provided with a basis for safety and environment awareness of power plant and boiler operations. The student will experience inspections, startups and shutdowns of fire tube and water tube boilers with emphasis on operation of equipment and their functions in the plant cycle. Logging of plant parameters will be carried out as well as auxiliary equipment inspections, operation and maintenance.
Prerequisite(s): PW1126

PW2100 - Applied Mathematics

This course serves to build upon and enhance the basic principles of a Power Engineering career learned at the fourth class Power Engineering level. Math skills are further developed to prepare students to apply mathematic principles in Power Engineering. This course is a critical building block to enable students to interpret findings and evaluate specific conditions in the Power Engineering field.

PW2110 - Applied Science

This course will provide the student with additional knowledge to that already gained at the 4th Class level in basic science and is sequentially designed to provide a stronger base from which to build upon in the Power Engineering field. This course covers principles in thermodynamics, thermal expansion, heat transfer, gas laws, chemistry fundamentals, metallurgy, materials and corrosion principles to enhance the ability of the leaner to see the relevance in the applied principles of Power Engineering. It is a critical building block.

PW2111 - Ind. Drawings, Leg. & Codes

This course will build on and enhance the knowledge already acquired at the 4th Class Power Engineering level. It will add to the concept of sketching center lines and dimensioning standard object views, sketching techniques and sectioning. This course also provides a practical exercise that enables the student to employ the learned concepts by completing applied drawings. Students will also explore the legislation requirements for Power Engineering.

PW2112 - Code Calculations - ASME I

In this course the student will use the ASME Code - Section 1 and ASME Section II to calculate the design thickness and pressure of boiler tubes, drums and piping and calculate the capacities of pressure relief valves.

PW2113 - Fuels, Combust. & FG Analysis

In this course the student will learn about the properties and combustion of common fuels and the analysis of combustion flu gas. It will build upon the foundation acquired at the Fourth Class Level.

PW2114 - Piping, Valves & Traps

This course will discuss codes, designs, specifications and connection for ferrous, non-ferrous and non-metallic piping and explain expansion and support devices common to piping systems. It will also include discussions on steam traps, causes and prevention of water hammer and the importance of good insulation. This will be followed by discussions of the various valves used in the Power Engineering industry and their actuators.

PW2115 - Electrical Theory & Calc.

In this course we will build upon our knowledge of the basic concepts in the production of electricity and the design, characteristics and operation of AC & DC generators and motors as well as AC systems, transformers Switch gear and safety.

PW2116 - Instrumentation & Control

This course will explore the operation and components of pneumatic, electronic and digital control loops and discuss control modes and strategies. How they are used to measure and control process conditions. It will also explore the general purpose, design, components and operation of distributed and programmable logic control systems.
Prerequisite(s): PW1122

PW2117 - Safety & Fire Prevention

This course will explore safety management and fire protection systems. It will explore typical legislation and programs that are used to manage safety in the industrial workplace. It will also explore the classes and extinguishing media of fires and explain systems that are used to detect and extinguish industrial fires.

PW2118 - Boiler Designs

This course will explore common designs, configurations, and circulation and construction patterns for modern bent-tube water-tube boilers and steam generators and how boilers are rated. It will also explore boiler components, firing methods, heat transfer, operating considerations and special boilers used in industry. High pressure external and internal boiler fittings design and operation will be discussed and explored.

PW2119 - Power Ops. & Maint. Lab III

In this course, students will perform lab projects while utilizing proper plant maintenance and equipment procedures such as repair and replacement. This course will build upon your current knowledge of safety and environment awareness of power plant and boiler operations. You will experience boiler/controls, pumps, pressure valves, steam condensate and boiler operations.
Prerequisite(s): PW1302

PW2200 - Boilers & Furnace Operation

This course will explore typical burners, fuel supply systems and burner/furnace designs for gas, oil and coal fired boilers. Boiler draft systems, fans and equipment used to remove ash from flue gas are also discussed as well as boiler control systems and boiler procedures.

PW2201 - Boiler Water Treatment

This course will explore internal water treatment methods and systems for the control of scale, corrosion and carryover and explain testing and monitoring strategies. It will also explain the purpose, principles, equipment and monitoring of boiler water pretreatment processes.

PW2202 - Pumps, Welding & P. Vessels

This course will explore pump design and operations as well as welding procedures & inspection, along with pressure vessels. Each of these topics and their understanding is critical to the Power Engineer.

PW2203 - Steam Turbines & Auxiliaries
This course will explore the designs, operating principles and major components of steam turbines, their condensers and auxiliaries. As well as auxiliary support and control systems for steam turbines and their start-up and shutdown procedures.

PW2204 - Gas Turbines, Cogen. & IC Engines
This course will explore common designs, major components, operating principles and arrangements for industrial gas turbines, their auxiliaries, operation and maintenance procedures. It will also explore the operating principles, designs, support systems and operation of industrial internal combustion engines (ICE), as well as, explain cogeneration and describe its common configurations, components and applications.

PW2205 - Compressors
This course will explore classifications, designs and operating principles of industrial air and gas compressors; as well as the controls and system auxiliaries for a typical instrument air system and explain startup procedures for air compressors.

PW2206 - Refrigeration Aux & Operation
This course will explore classifications and properties of refrigerants and describe the operating principles and components of compression and absorption systems. It will also explain control and safety devices on a compression refrigeration system and explain procedures and equipment to control oil, non-condensable, moisture, refrigerant and brine.

PW2207 - Heat Exch. & Wastewater Treat.
This course will explore the design, operation and applications of various types of industrial heat exchangers, as well as direct fired and indirect-fired natural draft process heaters. It will also explore the purpose, designs, processes and control of industrial wastewater treatment.

PW2208 - Plant Maintenance & Admin.
This course will explore typical components of maintenance and administration programs for utilities and process facilities.

PW2209 - Power Ops. & Maint. Lab IV
Students will perform various lab projects while utilizing plant maintenance and equipment procedures such as those for fire tube boilers, feed water systems, steam turbines and auxiliary equipment. This course will provide the student with a continuation of safety and environmental awareness of power plant and boiler operation. Students will experience boilers/controls, steam condensate, pumps, pressure valves and boiler operations.

PW2300 - On the Job Training
Students will gain an appreciation of the real work environment through a six (6) week work placement experience directly related to the area of training. Students will also further develop employability skills such as working independently, team-building, customer service, work ethic, attitude, and accountability, further enhancing their personal growth. Students will be able to perform tasks that are contained within their approved practicum manual.

PY1150 - Photography •
This course will teach students how to operate a Digital Single Lens Reflex (DSLR) camera and the rules of composition through practical and theoretical instruction. Students must have access to a Digital Single Lens Reflex camera.

PY1200 - Photography I
Students will be introduced to the basic principles and mechanics of digital photography as applied to the graphics industry.

PY1201 - Photography II
Students will be introduced to various photographic techniques as applied to the graphics industry.
Prerequisite(s): PY1200

PY1330 - News Photography I
In this course, students will learn basic photographic principles and techniques. They will learn the history of photojournalism, composition, how to use digital cameras and how to perform basic image-editing functions using industry-standard digital image editing software.

PY1331 - News Photography II
Building upon the technical foundation acquired in Photojournalism I, students will learn the principles of various types of news photography such as spot news, sports, event coverage and how to produce a photo essay. They will also learn visual literacy and the law and ethics of photojournalism.
Prerequisite(s): PY1330

PY2200 - Photography III
Students will learn the importance of the well crafted photographic image as it is used in the graphics industry. Consideration of the photographic image as a key element of an overall design, and specifically as a design anchor point, will be especially emphasized.
Prerequisite(s): PY1201

PY2201 - Photography IV
Students will have an opportunity to complete an independent learning project. Working in consultation with their instructor, students will identify a project concept, develop a project plan, complete design research, develop a project design incorporating advanced photographic techniques, and implement the project.
Prerequisite(s): PY2200

RM1400 - Wildlife Techniques I
This course will expose students to the various techniques used in wildlife research and management. This course provides theoretical and practical training of mammal and bird capture techniques, handling and tagging, chemical immobilization and radio / biotelemetry techniques. Students will also learn how to identify common songbirds through both visual and song characteristics.
Prerequisite(s): BL1400

RM1401 - Wildlife Techniques II
This course investigates methods to determine sex, age, size and maturity of mammals and birds. Current techniques used to inventory and monitor mammal and bird populations will be studied.
Prerequisite(s): BL1400

RM1500 - Fisheries Techniques I
This course will expose students to the various techniques used in fisheries research and management. This course provides theoretical and practical training of fish capture techniques, handling and tagging, chemical immobilization and radio / biotelemetry techniques.
Prerequisite(s): BL1400

RM1501 - Fisheries Techniques II
This course investigates methods to determine sex, age, size and maturity of fish. Current techniques used to inventory and monitor fish populations will be studied.
Prerequisite(s): BL1400

RM2200 - Habitat Assessment
Identify and classify fish and wildlife habitats.
Prerequisite(s): FR1330

RM2410 - Wildlife Techniques III
This course is designed to train individuals in field and laboratory techniques used in wildlife research and management. It involves determining the cause of death of mammals and birds, the collection and preservation of biological samples, analysis of diet and the identification of parasites and diseases. It includes information on anatomy, necropsy techniques, parasites, diseases, preservatives, collecting methods, species identification and safety precautions.
Prerequisite(s): BL1400

RM2420 - Habitat Management
This course identifies the various types of land and wildlife habitat classification systems that are developed for provincial and federal resource management. Fish and wildlife habitat management including habitat enhancement, reclamation, and protection techniques and habitat modeling are thoroughly discussed in this course.
Prerequisite(s): RM2200

RM2500 - Fisheries Techniques III
This course is designed to train individuals in field and laboratory techniques used in fisheries research and management. It involves determining the cause of death of fish, the collection and preservation of biological samples, analysis of diet and the identification of parasites and diseases. It includes information on anatomy, necropsy techniques, parasites, diseases, preservatives, collecting methods, species identification and safety precautions.
Prerequisite(s): BL1400

RP1100 - Introduction to Records Management •
This course is designed to introduce the student to the records and information management discipline. The topics covered will make students aware of the history and role of records management, career opportunities, and professional associations. Students will study the life cycle of records, records inventory procedures, records appraisal, records retention and disposition principles, and the use/function of records manuals. The students will be introduced to electronic document management systems, information governance and current trends in the discipline.

RP1101 - Management and Control of Records •
This course is designed to further explore the records and information management discipline. The topics covered will further develop the student's ability to manage all types of documents. Students will also be introduced to records control, quality control and improvement.

RP1200 - Archives Principles •
This course introduces the student to the area of archival storage. Archives will be examined from their evolution to their current role/function. Students will examine archival principles, procedures and career opportunities in the discipline.

RP1205 - Document Management Systems and Records Control •
This course is designed to introduce students to the fundamentals of an electronic document management system through demonstration and a simulation approach. The course will outline the measures and best practices that will lead to the efficient management of all types of documents ensuring quality control and improvement.
Prerequisite(s): RP1100

RP1300 - Active and Semi-active Records
This course involves a detailed examination of active, semi-active and inactive records. Students examine each group of records in terms of storage, maintenance, and retrieval procedures; supplies and equipment are examined in terms of suitability and cost. Records destruction policies and procedures are examined.

RP1301 - Document Control Processes •
This course involves a detailed examination of file management procedures. Students examine records in terms of storage, maintenance, and retrieval procedures; supplies and equipment are examined in terms of suitability and cost. Document control processes are studied. Students will acquire hands-on experience creating and modifying documents using an electronic document conversion software.

RP1400 - Information Security and Procedures •
This course is designed to teach students the fundamentals of information security and procedures. The topics covered will make the students aware of the legislation and litigation procedures involved with information security. Students will study retention requirements, the need for security, and the classification of vital records, as well as disaster prevention and recovery and the use/function of manuals. Students will participate in a combination of field trips and presentations from various professionals within the Records and Information Management industry.

RP2200 - Classification Systems •
This course is designed to teach students the fundamentals of classification systems using an electronic simulation approach. The topics covered will make students aware of the different types of classification systems and show them how to select one that is appropriate for a particular group of records. Students will be given an opportunity to work on projects involving various systems.

RS1100 - Introduction to Community Recreation Leadership
This course introduces students to the community recreation delivery system. The importance of dynamic leadership in the recreational delivery process will be emphasized. Students will analyze a variety of settings and populations for which recreation programming and services are offered.

RS1230 - Creative Activities
This course introduces students to basic materials, supplies, and methods necessary to conduct creative activity programs. These activities may be used in a variety of recreation programs such as boys' and girls' clubs, long term care facilities, rehabilitation centres, hospitals, guiding/scouting groups, and community recreation centres.

RS1240 - Recreation Activities III
This course is designed to expose the students to a variety of recreational related activities to create a better understanding of the student's role in recreation service programming and the importance of recreation as a regular component of active living. Students will participate, plan, lead and evaluate recreation activities such as walking, hiking, gardening and board/card games. Students will establish baseline step count for daily activity with the use of a pedometer. The opportunity for students to attain certification in the 3M National Coaching Certification Program will be provided.

RS1250 - Recreation Activities I
This course is designed to provide exposure as well as develop leadership skills in a variety of recreation activities. Students will review various topics including the place of sport in society, the role of all levels of government in administering sport, safety in recreation activities, and the history of indoor/outdoor recreation activities. Students will be introduced to the methods of scheduling teams and individual sports competitions. A variety of outdoor recreational activities will be introduced including cross-country skiing, snowshoeing, and winter camping.

RS1280 - Program Planning
This course is an introduction to the programming process required to produce quality recreation programs. Students will be provided with an overview of program planning and the human life stages to aid in understanding the resources required to provide programming. Students will learn about the six steps of the program planning process including needs assessment, and program objectives, solutions, design, implementation, and evaluation.

RS1320 - Recreation Administration
This course is a study of the administrative and organizational procedures used in the management systems of community and volunteer recreation agencies. Students will study the history of recreation and recreation management; recreation organization and management; recreation delivery system; fundraising; grants and proposal writing; and financial management.

RS1370 - Recreation Activities II

This course is a study of the principles of effective outdoor leadership and the application of those principles to selected outdoor experiences. The potential of tourism, adventure tourism, and ecotourism in Newfoundland and Labrador will be examined with a focus on leadership skills and group dynamics. Students will gain exposure to a variety of outdoor recreation activities and will be provided with the knowledge and skills to assist them in developing programs for children, youth, adults, and older adults.
Prerequisite(s): RS1250

RS1400 - Community Agencies

This is a seminar based course in which students study local organizations involved in providing community and recreation services in Newfoundland and Labrador. Students will conduct research on organizations and present this research through formal presentations and papers.

RS1440 - Recreation Facilities

This course introduces the student to the theory and practice of the planning, design, operation, and management of recreational facilities. As well, the student will become aware of the general trends in recreation which influence the design and management of selected facilities.

RS1450 - Introduction to Therapeutic Recreation

This course introduces students to the field of therapeutic recreation. The course addresses the provision of recreational services to individuals who face specific challenges.

RS1460 - Recreation Programming for the Older Adult

This course examines the physical, cognitive and emotional changes that occur as an individual ages. Characteristics of aging and disorders associated with aging will be examined. Students are provided with the framework necessary to design recreation programs for older adults.

RS1520 - Risk Management and Legal Liability

This course will overview the various forms of business and legal issues concerning recreation administration and operation of organizations and facilities operated by recreation practitioners. Students will review the components of the Canadian legal system. The area of risk management in recreation management will also be examined.

RS1530 - Principles and Procedures of Therapeutic Recreation

This course introduces students to a number of key principles and procedures that are paramount in the development and delivery of comprehensive therapeutic recreation services and programs. Course material will focus on the importance of therapeutic recreation programming and various other theoretical and philosophical foundations for therapeutic recreation services.
Prerequisite(s): RS1450

RT1100 - Introduction to Respiratory Therapy

In this course, learners will be introduced to the profession of respiratory therapy and the equipment related to medical gas therapy in adult and pediatric patient populations.
Co-requisite(s): HG1110

RT1110 - Applied Science for RT

In this course, principles of chemistry, biochemistry, and physics are studied as they apply to the practice of respiratory therapy. Major topics include bonding, matter, solutions, equilibrium, and electrochemistry. The fundamental concepts covered in this course will form the basis for further studies in respiratory therapy.
Co-requisite(s): MA1700

RT1120 - Cardiopulmonary Physiology

This course is an in-depth study of the cardiopulmonary and other body systems' anatomy and physiology, impacting respiratory therapy.
Prerequisite(s): BL1600, RT1100

RT1130 - Cardiopulmonary Patho I

This course will enable the student to describe the pathophysiologic manifestations, clinical signs, symptoms, diagnosis, and therapeutic management of the major respiratory obstructive and restrictive diseases.
Prerequisite(s): BL1600, RT1100

RT1140 - Airway Management I

In this course, learners explore the use of various airway management techniques, related equipment, and associated therapies. The primary emphasis is on the operation principles of the various types of equipment utilized in airway management within respiratory therapy. Additional focus will be placed on adult and paediatric airway management.
Prerequisite(s): Successful completion of Semester 2

RT1150 - Clinical Application I

The course is designed to introduce the respiratory therapy student to adult and paediatric clinical settings, using both the simulation laboratory and the hospital environment. Under direct supervision, students will apply previous classroom and laboratory learning to simulated/clinical performance activities
Prerequisite(s): Successful completion of Semesters 1 and 2

RT2110 - Airway Management II

In this course, learners explore the use of various types of airways: including management techniques, related equipment, and associated therapies used in respiratory therapy. Additional focus will be placed on the adult and paediatric airway management modalities.
Prerequisite(s): RT1140

RT2120 - Mechanical Ventilation I

This course is the first in a series of courses designed to provide students with the knowledge and critical thinking skills required to operate mechanical ventilators effectively and safely. The performance of these procedures will take place in a simulated clinical environment.
Prerequisite(s): RT1140

RT2130 - Clinical Application II

This course is a continuation of Clinical Application I and is designed to further assimilate the respiratory therapy student to the adult and paediatric clinical settings. Under direct supervision, students will integrate previously learned knowledge and skills through experience in both the simulation laboratory and the hospital environment.
Prerequisite(s): Successful completion of Semester 3

RT2140 - Cardiac Diagnostics

This course introduces the student to the theory and application of hemodynamic monitoring, invasive procedures, cardiovascular assessment and management as utilized in respiratory therapy. The performance of these procedures will take place in a simulated clinical environment.
Prerequisite(s): Successful completion of Semester 3

RT2150 - Cardiopulmonary Patho II

This course will enable the respiratory therapy student to describe the pathophysiologic manifestations, clinical signs, symptoms, and therapeutic management of the major neuromuscular, cardiovascular, and renal diseases to facilitate the development of treatment protocols. Important topics such as the effects of thermal injury and hypo/hyperbarism will also be discussed.
Prerequisite(s): Successful Completion of Semester 3

RT2160 - Mechanical Ventilation II

This course focuses on the physiological implications of instituting, maintaining, and discontinuing mechanical ventilatory support. Emphasis is placed on patient monitoring and evaluation of mechanical ventilation management. The performance of these procedures will take place in a simulated clinical environment.
Prerequisite(s): Successful completion of Semester 4

RT2170 - Pulmonary Diagnostics

This course introduces students to the principles of pulmonary diagnostic procedures and explores the significance of the various test data to the respiratory therapist.
Prerequisite(s): Successful completion of Semester 4

RT2180 - Neonatal Clinical Application

This course provides students with a comprehensive understanding of Neonatal Respiratory Care. Under direct supervision, students will be expected to apply the theoretical knowledge and skills previously learned in the simulation and/or hospital environment.
Prerequisite(s): Successful completion of Semester 4

RT2190 - Mechanical Ventilation III

This course focuses on advanced modes and management strategies for mechanically ventilated patients, utilizing current research and best practices. Students will be introduced to lung recruitment maneuvers; specialty inhaled gases to treat specific conditions; mechanical ventilation in the home setting; neonatal mechanical ventilation; transport of the critically ill; brain death, and apnea testing standards as a diagnostic tool in brain death determination.
Prerequisite(s): Successful completion of Semester 5

RT2240 - Cardiopulmonary Resuscitation

This course will provide respiratory therapy students with the knowledge and skills necessary to better recognize and treat critically ill adults, infants, and children. The course will include the latest standards in neonatal resuscitation (NRP), pediatric advanced life support (PALS), and advanced cardiac life support (ACLS) programs. Presentation of these emergency management strategies will use a combination of laboratory, simulation, and classroom presentations.
Prerequisite(s): Successful completion of Semester 4

RT2250 - Clinical Application IV
The course is designed to further assimilate the respiratory therapy student to the adult, paediatric, and neonatal clinical setting through experience in both the simulation laboratory and the hospital environment. Under direct supervision, students will be expected to expand their knowledge and skills of respiratory therapy procedures and build upon previously learned materials.
Prerequisite(s): Successful completion of Semester 5

RT2305 - Pharmacology
This course is an introductory course in Pharmacology as applied to Respiratory Therapy. General principles relating to drug administration are studied. Emphasis is placed on drugs affecting the respiratory and central nervous system.
Prerequisite(s): Successful completion of Semester 1

RT2320 - Anesthesia
This course is an introductory course in the principles and practices of anesthesia pertinent to the respiratory therapist. Major course topics include anesthesia machines, vaporizers, breathing circuits, anesthetic ventilators, preoperative procedures, monitoring the anaesthetized patient, and complications of anesthesia.
Prerequisite(s): Successful completion of Semester 4

RT2460 - RT Techniques
This course introduces the student to the theory and application of clinical assessment and management skills requisite to the practice of respiratory therapy in a simulated environment.
Prerequisite(s): Successful completion of Semester 1

RT2470 - Neonatal Respiratory Care
This course introduces students to the neonate's anatomical and physiological differences and the clinical management of these patients. Topics include gestational lung development, fetal-neonatal transition, newborn assessment, thermoregulation, neonatal cardiopulmonary pathophysiology, and neonatal ventilation. The performance of the procedures within the course will take place in a simulated clinical environment.
Prerequisite(s): Successful completion of Semester 3
Co-requisite(s): RT2120

RT3000 - Practicum I
This course is part one of two full-time, fifteen (15) week practicums. The practicum will allow students to apply theoretical knowledge and practical skills acquired throughout the programs' first six semesters to real-time clinical environments. Students are expected to demonstrate independent critical thinking, demonstrate positive and effective interactions with peers, preceptors, faculty, and other healthcare professionals, and assume responsibility for clinical actions and decisions.

Students will be assigned to various clinical environments that will focus on caring for neonatal, pediatric, and adult patients. The practicum will have a delivery format, including class sessions, discussions, assignments, simulation labs, and bedside care. Core values relating to professional behavior, ethical standards, communication, and safe practices will be emphasized and assessed using the Core Competency Evaluation.
Prerequisite(s): Successful completion of all year one and two courses

RT3010 - Practicum II
This course is part two of two full-time, fifteen (15) week practicums. The practicum will allow students to apply theoretical knowledge and practical skills acquired throughout the programs' first six semesters to real-time clinical environments. Students are expected to demonstrate independent critical thinking and assume responsibility for clinical actions and decisions. Students are expected to demonstrate independent critical thinking, demonstrate positive and effective interactions with peers, preceptors, faculty, and other healthcare professionals, and assume responsibility for clinical actions and decisions.

Students will be assigned to various clinical environments that will focus on caring for neonatal, pediatric, and adult patients. Practicum II will have a delivery format, including class sessions, discussion, assignments, simulation labs, and bedside care. Core values relating to professional behavior, ethical standards, safe practices, and effective communication will be emphasized and assessed using the Core Competency Evaluation.

Furthermore, it is expected that skills attained during Practicum I will be performed again as opportunities present themselves. Students will continue to master skills related to clinical and core competencies and are expected to progress to a highly autonomous and independent role as compared to Practicum I.
Prerequisite(s): RT3000

RT3020 - Practicum III

This final practicum course enables students to integrate theories and skills acquired throughout the previous two clinical practicums. Students will complete any remaining skills related to clinical and core competencies. Students will be evaluated on skills proficiency, time management, organizational skills, and decision-making at a high level of independence. Students will also be expected to take a lead role in providing patient care, further mastering/refining skills necessary to function as an entry-level respiratory therapist.

Comprehensive examinations will help prepare students to challenge the national certification exam for entry to practice (CBRC exam). These comprehensive examinations will be delivered in diverse formats, including classroom/online/self-study, where learners will be presented with case studies, quizzes, and discussions that will emphasize the competency areas in the Canadian National Competency Framework (NCF). These examinations will help the learner identify specific respiratory therapy areas where further study is required. This course will conclude with a Graduate Examination (format similar to the CBRC examinations).
Prerequisite(s): RT3010

RT3430 - Clinical Application III

This course is a continuation of Clinical Application II. The course is designed to further assimilate the respiratory therapy student to the adult and paediatric clinical setting through experience in both the simulation laboratory and the hospital environment. Under direct supervision and by building upon previously learned materials, students will further expand their knowledge and skills of respiratory therapy procedures.
Prerequisite(s): Successful completion of Semester 4

RV1101 - Decks and Fences

This course will focus on the special requirements for constructing fences, decks and other exterior unprotected wooden and synthetic structures. Learners will apply their knowledge through the construction of a fence and deck.
Prerequisite(s): AJ1111, AJ1160

RV1120 - Building Systems I

The learner will be introduced to structural requirements of buildings and the principles of controlling air, moisture, thermal and sound movement and transmission in buildings. Practical exercises in the control of air, moisture, thermal, and sound will be utilized to enhance the learner's ability to apply the concepts.
Prerequisite(s): AJ1111, AJ1160

RV1140 - Accommodated Construction

This course will enable the student to become aware of the requirements and specifications surrounding the basic requirements of barrier-free access for residential and commercial renovations projects. Students will apply the theory through a practical application of construction by planning, drawing and constructing a barrier free structure.
Prerequisite(s): AJ1111, AJ1160

RV1160 - Renovation I

This course provides the learner with the knowledge of construction of heritage and obsolete buildings and the issues surrounding renovating these structures. Learners will apply the knowledge they have gained through practical application of a heritage renovation emphasizing the recycling of reusable materials.
Prerequisite(s): AJ1111, AJ1160

RV1161 - Renovation II

The course will introduce the basic concepts of shoring and needling, and structural tie-ins. Practical work will concentrate on more complex structural integrations, particularly as applied to roof frames. Learners will be introduced to the concepts of challenges associated with unique building structure designs.
Prerequisite(s): RV1160

RV1170 - Basement Renovation

This course will focus on basement renovation techniques and unique situations and solutions when renovating basements. Learners will obtain an understanding through practical application of the presented topics by performing a simulated or complete basement renovation.
Prerequisite(s): AJ1111, AJ1160

RV1200 - Green Renovating

This course will enable the learner to apply good practices of energy conversation, waste management, environmental impact, and indoor air quality management to projects. The learner will gain practical experience through performing a green building practical lab on residential or commercial structure.
Prerequisite(s): AJ1111, RV1160

RV1230 - Project Manager I

The learner will become familiar with the concepts of project organization, time management, materials takeoff and estimating for construction projects. Learners will perform practical projects that apply the concepts of management of a project.
Prerequisite(s): AJ1111, RV1160

RV1231 - Project Manager II
The learner will apply skills acquired in RV1230 - Project Manager I to produce a complete project plan, required specifications, match the working drawings, create the materials take-off and labor estimate for a project.
Prerequisite(s): RV1230

RV1250 - Renovator's Basic Plumbing
This course will introduce the learners to the basics of residential plumbing systems and how to organize them with the renovation project. Learners will perform practical exercise to complete associated renovation plumbing tasks.
Prerequisite(s): AJ1111, RV1160

RV1260 - Renovator's Basic Electrical
This course will introduce the learners to the basics of electrical AC and DC theory as it relates to residential wiring systems, how to enable to identify the materials and tools so they can identify how they can interact with the certified electrical professional is required during a renovation project.
Prerequisite(s): AJ1111

RV1270 - Renovator's Basic HVAC
The learner will be introduced to principles and concepts of equipment, design and operation of Heating, Ventilating and Air Conditioning (HVAC) systems and components as they relate to residential and light commercial building applications. Practical exercises in heat load calculations, HVAC controls, use of testing instruments, and air balancing will utilized to enhance the student's ability to apply the concepts.
Prerequisite(s): AJ1111

RV1300 - Residential Estimating II
In this course, the learner will apply knowledge gained from completing AJ1170 - Residential Estimating to construction drawings and situations. All calculations and layouts are to be quality checked using the Canadian Building Code.
Prerequisite(s): AJ1170

RV1320 - Foundation Systems
The learners will develop an understanding of the numerous components and associated installation practices that combine to produce typical residential and light commercial concrete foundations and structures. Several residential forming systems, as well as ICF, will be studied in detail. Practical assignments and activities will support the delivery of this subject matter.
Prerequisite(s): AJ1111, AJ1160

RV1341 - Cabinet Layout and Design
This course will enable the learner to summarize requirements for cabinetry design, site preparation, and installation techniques. Learners will be introduced to both new home and renovation cabinet installation procedures. Learners will receive in class instruction and also have the opportunity to practice and apply the lessons through practical activities.
Prerequisite(s): AJ1111, RV1160

RV1350 - Flooring
Learners will gain an understanding of different types of flooring installation and removal procedures. Topics to be covered include underlayment, resilient tile, wood floors, laminate floors, engineer plywood floors, ceramic, porcelain tile, stone, resilient, and cement floors installation and removal procedures. Additional topics include site preparation, demolition, moisture monitoring, and estimation. Learners will complete practicals in the installation and removal of floors and floor finishes.
Prerequisite(s): AJ1111, AJ1170

RV1360 - Special Trims
Learners will gain an understanding of numerous types of interior trims and finishes. Topics to be covered include interior plastering and wall finishes/drywall, moldings, and painting/wood finishing. Learners will complete practicals in the installation and removal of trims, plastering, priming and painting.
Prerequisite(s): AJ1111, RV1160

RV1400 - Demolition and Waste Management
This course will provide the learner with a basic understanding of demolition and disposal practices. Recognizing hazardous materials will be emphasized in this course. Safe work practices will be emphasized to reduce the risk of accidents and injuries during demolition work. The need for proper waste diversion strategies will also be tabled during the course.
Prerequisite(s): AJ1111

RW3140 - Rotary Wing Aircraft (M)
This M course is to introduce the student to the helicopter and the helicopter industry. Its aim is to provide students with knowledge of helicopter fundamentals, theory of flight and the different main rotor systems. This is to enable students to perform maintenance functions on a helicopter main rotor and associated systems.
Prerequisite(s): GM1120, GM1130

RW3141 - Rotary Wing Aircraft Systems (M)
This M course is to provide the students with knowledge of the basic systems found on a helicopter. This will enable the student to perform maintenance inspections and repairs on the complete aircraft.
Prerequisite(s): RW3140

SC1110 - Intro to Sociology
Sociology I introduces students to understanding people and society. The course covers the foundations of sociology, social structures, social difference, social institutions and global perspectives. Using sociological theory students will learn to analyze various population groups and social issues and problems. While studying culture leads to understanding socialization and how people fit within the social structure of society, studying Canadian society positions students to grasp the impact of a multi-cultural society on health, employment, and families. Through examination of the impact of stratification, students will learn about inequality, racism, gender relations, and crime and deviance.

SC1121 - NL Society and Culture
This is the second of two introductory courses in sociology. Students use sociological methods and perspectives to examine aspects of Newfoundland and Labrador society and culture.

SC1130 - Family Studies
The Family Studies course provides students with information on cultural variations among families in Canada and includes an exploration of cultural influences, attitudes and relations. Media influence, aging populations and the feminist theory are all topics for discussion. Variations in family processes, forms and structures will be analyzed. Parenting responsibilities have changed as communities take on many of the roles that were formerly defined by the family. While examining the needs and challenges of modern families, this course will also explore factors that impact families such as violence, abuse, and divorce. Students will learn appropriate strategies for dealing with dysfunction while learning about the diversity of challenges and the diversity of solutions. As well, students will examine trends concerning families in the 21st century, the meaning of marriage and other forms of partnering while exploring how communities adjust as needs of families and challenges thereof continue to change.

SC1150 - Principles of Sociology •
Transferable to MUN Sociology 1000. Sociology 1150 is an introduction to the concepts, principles and topics of sociology. The theoretical foundations of modern sociology are examined through the works of such social theorists as Karl Marx, Emile Durkheim and Max Weber, in addition to the contemporary theoretical perspectives of functionalism, feminism, conflict theory and symbolic interactionism. The course also examines a range of sociological topics and concepts including research methods, culture, socialization, social stratification, deviance and crime, race and ethnicity, sex and gender, health and healthcare, work and the economy, and populations.

SC1160 - Sociology of Families •
Transferable to MUN Sociology 2270. This course includes the topics: defining the family, sociological perspectives on the family, family diversity, dynamics of intimate relationships, marriage, children and parenting, lone parent families, separation, divorce and remarriage, the family and work, the family and poverty, midlife and beyond, social problems in the family, and trends in Canadian family life.

SC1240 - Healthy Aging
This is an introductory course in the area of aging. Using a multidisciplinary approach, students will gain knowledge and understanding of the aging process and older adults. Students will explore, identify and promote healthy aging strategies and lifestyles by rethinking outdated assumptions about aging. They will identify current issues and challenges experienced by the older population. Students will explore proactive alternatives for promoting longevity and quality of life among older adults.

SC1400 - Sociology - Labrador Society and Culture
This course will provide students with an opportunity to take a critical look at Labrador society and culture. By developing a sociological perspective, students gain a better understanding of their own society and culture.

SC1430 - Labrador Society and Culture
This course examines Labrador Society and Culture from its pre-Contact origins through to the present day. Through coursework, guest speakers and documentaries attention will center on specific cultural groups/traits within Labrador, as well as their interrelationships, which constitute Labrador society.

SD1170 - Technology Awareness I
This course (with Technology Awareness II) is designed to raise career awareness levels for engineering technology students by providing information regarding the engineering technology profession. This course will prepare students for the workplace by illustrating how the skills and practices of successful students parallel the skills and practices of successful professionals.

SD1171 - Technology Awareness II
This course (with Technology Awareness I) is designed to raise career awareness levels for engineering technology learners by providing information regarding the engineering technology profession. This course will prepare learners for the workplace by illustrating how the skills and practices of successful students parallel the skills and practices of successful professionals.
Prerequisite(s): SD1170

SD1230 - Career Exploration

This course takes the student through the process of career exploration, teaching the skills needed to make informed decisions about their future education and career goals. The student will be engaged in personal discovery and self-assessment, will learn multiple research methods used for gathering career-related information, and develop a clear understanding of the career decision-making process. By the end of the course the student will have developed a career portfolio and developed a personal career plan.

SD1570 - Effective Learning

This course is designed to help Comprehensive Arts and Science students develop the skills, strategies and tools needed to ensure their success in College. Students who successfully complete the course will have a better understanding of themselves as learners and of strategies for improving their learning potential. They will also have a greater appreciation of the need to define their educational and career goals clearly and to develop the habits and skills which will enable them to achieve those goals. The course will also provide an opportunity for students to become aware of the full range of campus resources available to support their learning and to learn how to use those resources effectively. Students will compile a portfolio during this course which should prove to be of value to them throughout their College life.

SD1580 - Critical Thinking across the Curriculum

This course is designed to help Comprehensive Arts and Science students develop analytical and critical thinking skills for practical application in their post-secondary programs as well as in their lives and careers. Students who successfully complete this course will have a better understanding of how to present sound and logical arguments and how to apply the skills of critical analysis in their studies as well as in their working and social lives. The course also provides an introduction to the principles and processes of informal debating.

SD1710 - Job Search Techniques

This course is designed to give students an introduction to the critical elements of effective job search techniques. Upon completion of this course, students will be able to demonstrate effective use of Job Search Techniques.

SE1010 - Fire Protection

This course is designed to give students a thorough understanding of the potential loss, due to fire, both in terms of human values and economic impact. Students will also learn about the practice and theory of fire prevention, fire containment, and fire extinguishing. Students will also understand and apply regulatory codes and standards related to fire protection.

SE1041 - Ergonomics

This course is designed to provide students with knowledge and skills related to the human-machine and human-environment interfaces in the workplace from a design perspective, such that the workplace can be as safe, efficient and comfortable, as possible. The student will consider aspects of engineering, mechanics, motion, light, sound, physiology, psychology, biomechanics, and anthropometrics to ensure that the demands of operating a system do not exceed the capabilities of the user, in terms of individual well-being or system effectiveness. It will also include the application of specific CSA standards and provincial legislation and guidelines.

SE1530 - Occupational Health and Safety

This course will introduce the student to the interpretation and application of occupational health and safety legislation and key safety program elements. The importance of an industrial regulatory system is studied. Safety procedures of personal protective equipment and handling of various dangerous chemicals are discussed. In addition, the student will become familiar with the concept of due diligence and behavior-based safety approaches.

SE2150 - Safety Certifications

This course will provide students with certifications needed for work in the Chemical Processing Industry. Certificate courses will be offered during intersession in Semester 3. Students are required to complete these courses to meet safety standards and the purpose of this course is to ensure adequate measures are taken to protect students, the environment and assets from harmful consequences of the activities being undertaken within the chemical processing industry.

SE3310 - Process Safety and Risk Management

The course is designed to enable the learner to utilize industry-recognized standards and methodologies to assess risk, measure its magnitude, and develop plans to minimize and control it. Case studies from the oil and gas and chemical process industries will be used to demonstrate the necessity for comprehensive Risk Management Systems. Process Safety Analysis/Risk Management, Management of Change and Control of Work systems will be applied.
Prerequisite(s): SE1530

SN1160 - Sound & Microphones

This course is designed to introduce students to the fundamentals of sound, the basics of human hearing, basic acoustics, psychoacoustics and ear training. Students also learn about microphones which are used to transduce sound pressure into electrical voltages which can then be manipulated, encoded, stored to a desired medium or turned back into sound pressure.

SN1170 - Music Production Techniques

This course is designed to get the student out of the classroom and into the recording studio. Students will learn the titles and job descriptions of studio personnel, session flow and terminology, session preparation, microphone and other recording techniques. Students will also get some hands-on time with various signal processing tools and learn about studio signal flow. Lastly, mobile recording equipment and techniques will be discussed.

SN1180 - Exploring Your Industry

This course is designed to give the student much needed insight into the industry they have chosen. Through research and networking with industry professionals, the student will explore their industry in areas such as technical innovation, recent trends, employment prospects and professional organizations within the industry.

SN1200 - Music Business

This course will give students an insight into the Music Business. It will deal with Contractual Agreements between participants as well as Copyright laws and Performing Rights Organizations. Career Planning and other employment opportunities will be discussed as well as the perks and pitfalls of Independent Record Productions.

SN1410 - Stage Lighting

This course is designed to introduce the student to the components and applications of stage lighting for the music industry and the performing arts. It will cover such topics as history of stage lighting and design, methods of lighting, design and procedure, introduction to lighting fixtures, consoles, dimmers, DMX, intelligent lighting and lighting control software. Electrical safety practices will be explained and emphasized.

SN2110 - Mixing & Mastering

This course is designed to expose the student to the final two phases of the recording process: mixing & mastering. Mixing philosophies and techniques will be examined as well as intermediate and advanced use of EQ, dynamics processing and special effects. Mastering will touch on the basics of the process and the tools used to create radio-ready final products.
Prerequisite(s): SN2200

SN2120 - Sound in Practice I

This course is designed to immerse the student in a practical, hands-on, interdisciplinary environment. Theory from other courses will be put into practice as students liaise with students in other media arts disciplines. All projects will be assigned and mentored by the instructor.
Prerequisite(s): SN1160, SN2200
Co-requisite(s): SN2420, SN2110

SN2130 - Career Management

This course will introduce learners to the fundamentals of managing a career in the sound recording and production Industry. It will identify the skills necessary for successful financial management and will introduce the importance and basics of financial planning. It will review the financial aspects of recording such as budgeting, funding, record keeping and government reporting. Learners will also be introduced to the fundamentals of project management and will be presented with career opportunities that are available in the industry. A combination of theories/concepts and practical illustrations are used to explain the application of sound financial planning.

SN2140 - Acoustics & Studio Design

Acoustics & Studio Design is a Sound Recording & Production course. It is designed to prepare students for a career in the field of sound recording and production. Students will learn the necessary physics of sound and acoustics. They will then apply this theory to the studio, allowing them to design spaces specifically for particular acoustical requirements. Finally, they will take this learning outside of the studio to apply all that they know toward speaker and stage layouts, both enclosed and open air.

SN2150 - Sound in Practice II

This is a continuation of the first Sound in Practice course and is designed to immerse the student in a practical, hands-on, interdisciplinary environment. Theory from other courses will be put into practice as students liaise with students in other media arts disciplines and external community bodies. All projects will be assigned and mentored by the instructor.
Prerequisite(s): SN2120, SN2201

SN2200 - Recording I

This course is an introduction to sound recording technologies. The evolution of those technologies is traced from when sound was first captured and moves to a comprehensive overview of contemporary technologies. Topics include History of Recording, Magnetic Recording, Digital Recording, Analog and Digital Consoles, Analog and Digital Processing.
Co-requisite(s): SN1160

SN2201 - Recording II

This course is designed to give the student hands-on experience of a recording session from pre-production right through the entire modern digital recording process. Modern editing for timing and pitch will be covered as will vocal comping and editing techniques.
Prerequisite(s): SN1160, SN2200
Co-requisite(s): MM2340, SN1170

SN2420 - Sound for Visual Media
This course explores the unique requirements for sound recording and production for visual media. This includes film and video production, digital animation and video game design. Students will review the key technical requirements of these industries and will, through practical sessions, demonstrate required competencies.

SN3100 - Live Sound Production
This course is designed to introduce the student to the various components that make up a public address system. Cabling and connections will be examined and explained. Mixing sound indoors will be compared and contrasted to mixing sound outdoors.
Prerequisite(s): SN1160

SP1200 - Machine Shop Practice
This is an introductory course designed to give students a knowledge and understanding of the fundamental metal-removal and general machine shop concepts which will form the basis for further studies in science and technology.

SP1210 - Machine Shop Practice
This is an introductory course designed to give students a knowledge and understanding of the fundamental metal-removal and general machine shop concepts which will form the basis for further studies in science and technology.

SP1320 - Radiation Safety
This course will have the learner explore the health and safety concerns related to working with industrial radiography radiation sources. The primary intent of the course is to introduce the learner to safe handling, standard operating principles and procedures and emergency operation principles and procedures for industrial radiography exposure devices. Through the principle of ALARA (As Low As Reasonable Achievable) and the concepts of Time Distance and Shielding this course will prepare the learner for calculating and verifying working radiation dose rates, accumulated dosages, safe distances, and shielding requirements. The relevant sections of the Canadian Nuclear Safety Act and Regulations will be explained in detail. Successful completion of this course will provide the learner the opportunity to further pursue the CEDO Certified Exposure Device Operators designation through the NDT (Non-Destructive Testing) Certifying Agency of CANMET Materials Technology Laboratory, Natural Resources Canada in accordance with the Canadian Nuclear Safety Commission Regulatory Guide G229.

SP1400 - Facilities Engineering
Development and application of preventive and predictive maintenance programs for industrial equipment and facilities is emphasized. Condition monitoring of equipment, predictive techniques including vibration analysis and fluid sampling are explained with practical applications and related exercises. A preventive and predictive maintenance program is developed as a project, using industry-recognized methods.

SP1420 - Asset Maint. & Reliability
Development and application of preventive and predictive maintenance programs for industrial equipment and facilities is emphasized. Condition monitoring of equipment, predictive techniques including vibration analysis and fluid sampling are explained with practical applications and related exercises. A preventive and predictive maintenance program is developed as a project, using industry-recognized methods.

SP1450 - Quality Management Systems
This course introduces the learner to the concepts and systems of Quality Assurance. The context of the course will be centred around the elements of quality assurance as it impacts the welding industry. It emphasizes the elements and it demonstrates the practices and procedures that companies employ to meet the requirements of a Quality Management System.

SP1730 - CNC Machining I
This is an introductory course in Computer Numerical Control (CNC). Programming concepts learned through the lecture time will be applied using both a CNC Lathe and CNC Milling Machine.
Prerequisite(s): SP1200

SP1731 - CNC Machining II
This is a course in Computer Numerical Control (CNC) using Computer Applied Manufacturing (CAM) software. It is delivered using computers to produce CAD/CAM programs that are applied through shop floor exercises with CNC Machining Centers. Instruction will be done through lecture, computer lab and hands-on work in the shop.
Prerequisite(s): SP1730

SP1805 - Metrology and Quality Control I
This course integrates the application of statistical process control with the control of quality for a product or service. Measurement of the physical characteristics of a product and its relationship to the manufacture, quality and cost is emphasized. The student will use a variety of measuring tools such as micrometers, scales, the optical comparator and the coordinate measuring machine (CMM) for inspection procedures. In addition, the student will be introduced to the application of Statistical Process Control which will be integrated into the quality control procedures required in the manufacture of the product.
Prerequisite(s): SP1210

SP1830 - Applied Statistics and Quality Control

This course integrates the application of statistical process control with the control of quality for a product or service. Measurement of the physical characteristics of a product and its relationship to the manufacture, quality and cost is emphasized. The student will use a variety of measuring tools such as micrometers, scales, the optical comparator and the coordinate measuring machine (CMM) for inspection procedures. In addition, the student will be introduced to the application of Statistical Process Control which will be integrated into the quality control procedures required in the manufacture of the product.
Prerequisite(s): SP1200 or SP1210

SP1835 - Applied Statistics and Quality Control

This course integrates the application of statistical process control with the control of quality for a product or service. Measurement of the physical characteristics of a product and its relationship to the manufacture, quality and cost is emphasized. The student will use a variety of measuring tools such as micrometers, scales, the optical comparator and the coordinate measuring machine (CMM) for inspection procedures. In addition, the student will be introduced to the application of Statistical Process Control which will be integrated into the quality control procedures required in the manufacture of the product.
Prerequisite(s): SP1200 or SP1210

SP2110 - NDT-MT & RT

This course is intended to introduce the learner to the theory and practice of the Non-Destructive Testing (NDT) disciplines of Magnetic Particle Inspection (MT) and Radiographic Inspection (RT).
Prerequisite(s): PH1100; WD1440

SP2120 - NDT-PT & UT

This course is intended to introduce the learner to the theory and practice of the Non-Destructive Testing (NDT) disciplines of Liquid Penetrant Inspection (PT) and Ultrasonic Inspection (UT).
Prerequisite(s): CF1100

SP2131 - Applied Metrology I

This course provides a hands on introduction to precision measurement using a variety of manual metrology tools. Measurement of the physical characteristics of a product and its relationship to the manufacture, quality and cost is emphasized. The student will use a variety of measuring tools such as micrometers, verniers, height gages, depth gages, steel rule, radius gage, sinebar, surface plates, gage blocks and protractor. The students will be make radius, angularity and thread measurements using an optical comparator. The students will be introduced to the coordinate measuring machine (CMM). In addition, the student will receive a comprehensive introduction to Geometric Dimensioning and Tolerancing including making measurements of form, orientation, runout, profile and location. The students will be introduced to control charts and acceptance sampling.
Prerequisite(s): SP1200 or SP1210
Co-requisite(s): MA1670

SP2132 - Applied Metrology II

This course builds on the theory and practice covered in the previous applied metrology courses. It focuses on application of geometrical dimensioning and tolerances, precision measurement using a contact based co-ordinate measuring machine (CMM), a machine vision system and other digital gages interfaced to computer hardware equipped with statistical process control software. The student will also make surface roughness measurements using contact and non-contact profilometer. The students will also apply a non-contact CMM to scan and measure three dimensional parts.
Prerequisite(s): SP2131, MA1670

SP2300 - Quality Assurance

This course is designed to introduce the concepts, philosophy and application of Total Quality Management, Statistical process Control and the International Standards Organization (ISO) 9000 quality standards. Emphasis will be on the integration of the total quality management philosophy into the production process. Development of quality control procedures and documentation will be discussed including reference to existing industry quality control specifications. The implementation process for quality assurance manuals and their auditing procedures will be outlined.

SP2325 - Quality Assurance

This course is designed to introduce the concepts, philosophy and application of Total Quality Management, and the International Standards Organization (ISO) 9000 quality standards. Emphasis will be placed on the integration of total quality management philosophy into the production process. Development of quality procedures and documentation will be discussed including reference to existing industry quality specifications. The implementation process for quality assurance manuals and their auditing procedures will be outlined.

SP2330 - Quality Assurance / Quality Control

This course is designed to give students an understanding of the concepts and requirements of QA/QC such as, interpreting standards, controlling the acceptance of raw materials, controlling quality variables and documenting the process. It includes information on quality concepts, codes and standards, documentation, communications, human resources, company structure and policy, teamwork and responsibilities. Upon completion of this course, students will be able to develop the skills and knowledge required to apply quality assurance/quality control procedures as related to the trade; develop an awareness of quality principles and processes; apply quality assurance/quality control procedures in a shop project.

SP2360 - Quality Control and Reliability
This course builds on the theory and practice covered in the previous quality assurance, metrology and quality control courses. If focuses on application of geometrical dimensioning and tolerances, precision measurement using a co-ordinate measuring machine and reliability.
Prerequisite(s): SP1830; MA1670

SP2370 - Quality Assurance
This course is designed to introduce the concepts, philosophy and application of Lean-six sigma, Total Quality Management, Statistical Process Control and the International Standards Organization (ISO) 9000 quality standards. Emphasis will be placed on the integration of total quality management philosophy into the production process. Development of quality control procedures and documentation will be discussed including reference to existing industry quality control specifications. The implementation process for quality assurance manuals and their auditing procedures will be outlined.
Prerequisite(s): SP1830

SP2450 - OHS Management Systems
This course will introduce the student to the interpretation and application of workplace occupational health and safety (OHS) legislation and provide the student with an understanding of due diligence. The course is designed to enable the student to utilize industry-recognized standards and methodologies to assess risk, determine its magnitude, and develop plans to minimize and control it. Case studies from manufacturing or other industrial settings may be used to demonstrate the necessity for proactive safety systems.

SP2455 - Petroleum OHS Management
This course will introduce the student to the interpretation and application of workplace legislation and regulations to provide the student with an understanding of due diligence.

SP2510 - Plant and Facility Layout
The course examines the contribution that a competently performed plant or facility layout plan can make toward achieving a profitable and efficient company or non-profit organization. The course combines fundamental principles and practical methodologies in plant and facility layout and material handling. The student will investigate and apply these principles and techniques in a variety of realistic situations. Further, since any proposal for innovation or change must be analyzed and described thoroughly, this course also emphasizes development of competencies in CADD and communication, with emphasis on the written report.
Prerequisite(s): EG1430

ST2400 - Apparel Design II
In this course students will learn more advanced apparel design and construction techniques. Topics include intermediate sewing techniques and draping techniques. Students will create a series of flat patterns and will also construct four full garments.
Prerequisite(s): TX1400, VA1201

ST2401 - Apparel Design III
In this course, students will continue to learn advanced apparel design techniques. Topics covered include using specialty fabrics in garment designing, constructing, and constructing outerwear garments. Students will be required to complete four full garments.
Prerequisite(s): ST2400, VA2250

ST2450 - Fabric Design II
In this course, students will learn more advanced fabric design techniques through knit, weave and felt. Students will continue to maintain records of their work.
Prerequisite(s): TX1220, VA1201

ST2455 - Surface Design II
This is a course in intermediate surface design techniques. Topics covered include intermediate dye techniques, intermediate surface embellishment techniques and intermediate rug hooking techniques. Students will learn to maintain accurate records of their work.
Prerequisite(s): TX1225, VA1201

ST2460 - Fabric Design III
This course provides students with an opportunity to complete an independent learning project. Working in consultation with the instructor, students will identify, design and develop a project concept, complete design research, and carry out project to completion. Topics for independent learning project will include intermediate techniques in knit, weave and felt.
Prerequisite(s): ST2450, VA2250

ST2465 - Surface Design III
This course provides students with an opportunity to complete an independent learning project. Working in consultation with the instructor, students will identify, design and develop a project concept, complete design research, and carry out project to completion. Topics for independent learning project will include intermediate dye techniques, intermediate surface embellishment techniques and intermediate rug hooking techniques.
Prerequisite(s): ST2455, VA2250

SU1150 - Field Navigation
This course is designed to expose students to concepts of field navigation. It is essentially a field oriented course in which students will be introduced to navigational skills using: map and compass, photos, and GPS. Students will also be introduced to viewing and manipulating digital data through desktop mapping.

SU1200 - Plane Surveying
Plane Surveying is an introductory surveying course for technologists. Topics studied include, but are not limited to: measure of angle, direction and distance with appropriate instruction in the corresponding areas of traverse and coordinate computation. Also included are differential, profile, trigonometric, and cross-section leveling. An introduction to the use of global positioning system (GPS) is included. Field labs and practicals emphasize use and care of surveying equipment, note taking and interpretation and plotting of field notes.
Prerequisite(s): MA1101

SU1210 - Construction Surveying
This is the second course in surveying for learners in the Civil Technology program. Its purpose is to strengthen the surveying skills of learners, to teach them new skills in surveying that are directly related to the construction of buildings, roads and municipal services.
Prerequisite(s): SU1200

SU1320 - Plane Surveying I
This is an introductory course in surveying presented to Geomatics Engineering Technology (Co-op) program. The topics to be covered are: introduction to the theory of surveying on a plane, the acquisition of linear distances, horizontal angle, vertical angles, the calculation of coordinates and areas, the determination of elevations using spirit leveling, profiles and cross-sections, the graphical presentation of acquired data. The student will use tapes, total stations and spirit levels to acquire the required data.
Prerequisite(s): EG1430, MA1101, PH1100

SU1321 - Plane Surveying II
This is the second course in Plane Surveying in the Geomatics Engineering Technology (Co-op) program. This course expands on the topics covered in SU1320: vertical and horizontal datums, data transformation, total station instrumentation, data collectors, horizontal and vertical curves, and construction surveying.
Prerequisite(s): SU1320, SU1500

SU1360 - Graphics for Geomatics Engineering Technology
This course introduces a surveying software package. The course utilizes and expands on theory and practice from previous cartography, CAD, and plane surveying courses applying this knowledge to a surveying graphics package. Topics covered include applied drafting skills, traverse computations, software adjustments, earthwork volume determination, road design, area calculations, and subdivision design.
Prerequisite(s): SU1320, SU1500
Co-requisite(s): SU1321

SU1450 - Geographic Information Systems (GIS) I
This is the first of two GIS courses and focuses on introducing GIS and its components. The course introduces the GIS and its interlink with the real world. Geospatial data and its influence on maps are explained. The various types of data models and geodatabases are introduced as well as database management. The use of GIS as a facility management tool is addressed with emphasis on the combining of the various themes to answer posed questions. The application of Web and Mobile GIS are explored and their influence on the evolution of GIS is discussed.
Prerequisite(s): SU1320, SU2500

SU1460 - Geographic Information Systems (GIS) II
This course focuses on data analysis and management. Topics included are: data exploration and analysis, vector and raster data analysis, terrain mapping and analysis, viewshed and watershed analysis, spatial interpolation, geocoding, network analysis, analytical modeling, an introduction to Python scripting and project design and management. There will be a strong emphasis on how GIS is utilized to aid in the analysis and management of data with a brief introduction to GIS design and management.
Prerequisite(s): SU1450

SU1500 - Cartography
This course is an introductory course offered to Geomatics Engineering Technology (Co-op) students. The course is divided into two modules. Module one covers topics in cartography while module two expands on the CAD skills acquired by the student in Engineering Graphics EG1110.
Prerequisite(s): MA1101, PH1100, EG1430

SU1540 - Hydrography I
This course is an introductory course in hydrographic principles and procedures. It is designed to emphasize the theoretical and practical applications of hydrography and the marine survey environment.
Prerequisite(s): SU1321

SU1541 - Hydrography II
This course is an advanced course in hydrographic principles and procedures. It is a continuation of SU1540 (Hydrography I) with emphasis on advanced hydrographic systems and their use in marine engineering projects.
Prerequisite(s): SU1540, SU2570

SU1570 - Remote Sensing
This course introduces the student to the principles of remote sensing. The concept of acquiring data outside our visual range and the use of that data to identify and classify objects and phenomena is investigated. The basic data recording systems in common use are addressed.
Prerequisite(s): SU2500, SU2570, SU1460

SU1575 - Remote Sensing Applications for Natural Resources
Remote sensing is an important technology used in base mapping, creating and updating resource inventories, and environmental monitoring. It is continually evolving, with the development and refinement of new sensors, new platforms, and new analysis tools. Consequently, it is essential that technicians understand how and when remote sensing can be used in natural resources management and how it complements field-based measurements and observations. This course is intended to provide an introduction to the fundamentals of remote sensing, along with the technical skills needed to solve practical problems and support natural resource applications and decision-making using remotely sensed data.
Prerequisite(s): SU1150, SU3210

SU1710 - Forest Surveying
This in an introductory course in surveying including basic fundamentals of plane surveying and the use and care of equipment. The measurement of distance, direction and elevation is emphasized. The rope chair, level and hand compass are the major pieces of equipment studied.

SU2330 - Geodesy and Geodetic Positioning I
This course introduces the student to the topic of Geodesy and Geodetic Positioning. Topics covered include fundamental concepts in geodesy and geodetic positioning, coordinate systems and coordinate transformations, geoid models and heights, geodetic datum's, reference systems and reference frames, geodetic positioning techniques, an introduction to the propagation of random errors, and an introduction to GNSS. This course also deals with the acquisition of high precision data, an analysis of the errors associated with this data and the effect of such errors on the accuracy of the calculated parameters. The reduction of collected data to desired datums is also introduced.
Prerequisite(s): MA2100, SU1321, PH1101

SU2500 - Photogrammetry
This course is an introduction to photogrammetry for the Geomatics Engineering Technology (Co-op) program. The course introduces the student to the use of aerial photography for the production of maps. The principals of photogrammetry are addressed and the use of stereoplotters for map compilation is explored. The sources of aerial photography acquisition are identified. The aerotriangulation process for the photo to ground geometry is investigated. The use of aerial photography for the production of rudimentary maps is also addressed.
Prerequisite(s): SU1320, SU1500

SU2540 - Cadastral Surveying I
This is an intermediate level course designed to familiarize the student with legal principles and applicable legislation in the area of Cadastral Surveying. The student will also make practical application of this knowledge.
Prerequisite(s): SU1321

SU2541 - Cadastral Surveying II
This is Cadastral Surveying II with emphasis on the field and office practices of Land Surveyors. It includes the study of real property law and law related to matters of Land Surveying in Canadian jurisdictions.
Prerequisite(s): SU2540, SU1360

SU2570 - GNSS and Spatial Referencing
This course introduces the student to the Global Navigation Satellite System (GNSS) as a precise measuring tool. The satellite systems, operational control and user applications of the GNSS are investigated. A strong emphasis is placed on the fundamentals of NAVSTAR – GPS. The GPS signal structure, broadcast information and the parameters of the navigation message are examined. Celestial, Terrestrial and Orbital Coordinate Systems pertinent to space positioning are defined and coordinate computations performed. The procedural tasks associated with various GPS modes of operation are practiced through completion of specified survey projects. Quality assurance and data analysis is performed to investigate the accuracies of the various GPS methods such as Static, RTK and Post processed solutions. Concepts of Astronomy and the determination of position by use of classical astronomic means within the Celestial Coordinate System is also addressed.
Prerequisite(s): SU2330
Co-requisite(s): MA3130

SU3210 - Geographic Information Systems (GIS)

This course is designed to provide students with an overview of Geographic Information Systems (GIS) technology and an in depth appreciation of the role of GIS technology in natural resources applications. Students will gain valuable skills and hands-on experience to support resource-based GIS projects typical in the workforce. Using vector-based GIS data models, students will create databases, manage spatial and attribute data, generate map-based and tabular outputs, and perform geographic analysis. The course culminates with a major GIS project designed to reinforce the skills covered in the course.
Prerequisite(s): MC1080, SU1150

SU3300 - Geodesy and Geodetic Positioning II

This third year course offered in Geomatics Engineering Technology (Co-op) expands on map projections and develops the higher order corrections to positioning problems. The course introduces geodesy and geodetic concepts to equip students for modeling and measurement in a 3D global context.
Prerequisite(s): SU2570, MA3130

SU3500 - Adjustments

This course further explores the use of the Least Squares technique for the adjustment of survey observations. The parametric model is explored with an introduction to the combined model. The statistical analysis of derived parameters is used for quality assurance.
Prerequisite(s): SU1540, SU2330
Co-requisite(s): SU2570, MA3130

TA1141 - Orientation to Rehabilitation •

The purpose of this course is to introduce the student to the field of rehabilitation, the role of the Rehabilitation Assistant, professional organizations and areas of specialization. The course is followed by a one-week clinical placement.

TA1231 - Human Movement and Kinesiology •

This course will enable students to describe the human body in motion and to demonstrate safe body mechanics. This will be based on theoretical and practical study of human movement and kinesiology and how it applies to persons with atypical movement patterns. The course will include a lab component and a practical skills exam. A two-week clinical placement will immediately follow successful completion of this course.
Prerequisite(s): TA1390

TA1390 - Anatomy and Physiology •

This course is an introduction to the structure of the human body and its systems with emphasis on the muscular, skeletal and nervous systems. In particular, this course provides the learner with the necessary knowledge base as it relates to anatomy and physiology in order to work as a Rehabilitation Assistant (OTA & PTA).

TA1511 - Introduction to Gerontology •

This course defines aging and the Canadian population according to current and forecast age distributions. Implications on the dependency, economic and social status of the elderly are analyzed. Health status and influencing factors are examined with a concurrent review of health care and housing systems available in urban and rural communities.

TA1601 - Introduction to Clinical Skills •

This course will enable students to effectively handle and move patients using safe body mechanics. The course will include a lab component and a practical skills exam.
Co-requisite(s): TA1390

TA1610 - Clinical Orientation Placement •

The purpose of this course is to introduce the student to the clinical setting and develop their observation and professionalism skills.
Co-requisite(s): TA1141

TA1612 - Advanced Clinical Skills •

This course is a continuation of TA1601 – Introduction to Clinical Skills. The student will learn the theory behind and practice in the lab setting, advanced handling and positioning skills and therapeutic interventions. Students will utilize appropriate equipment and techniques to enhance client participation in therapeutic procedures. The student will practice these skills in the lab and complete a practical skills exam.
Prerequisite(s): TA1601, TA1610

TA1701 - Clinical Placement I •

The student will demonstrate in the clinical setting advanced handling and positioning skills and therapeutic interventions. Students will utilize appropriate equipment and techniques to enhance client participation in therapeutic procedures. The clinical placement setting will be determined by the clinical instructor and will be supervised by an Occupational Therapist or Physiotherapist and/or Occupational Therapist Assistant or Physiotherapist Assistant.
Prerequisite(s): TA1612, TA1601, TA1610, TA1231

TA2140 - Disease, Injury and Intervention I •
Students will be introduced to a selection of diseases and injuries based on broad diagnostic categories, including developmental, physical and psychosocial conditions in pediatric, adult and geriatric populations. Emphasis will be placed on the impact that these conditions present to the individual and the rehabilitation management of these conditions.
Prerequisite(s): TA1390

TA2141 - Disease, Injury and Intervention II •
Students will continue their study of a selection of diseases and injuries based on broad diagnostic categories, including developmental, physical and psychosocial conditions in pediatric, adult and geriatric populations. Emphasis will be placed on the impact that these conditions present to the individual and the rehabilitation management of these conditions.
Prerequisite(s): TA1390, TA2140

TA2221 - Communication Disorders in Rehabilitation •
The purpose of this course is to review communication problems associated with neurological and sensory impairments, which inhibit a person's ability to effectively communicate. The focus of the course is to teach the students practical skills which will enhance their communication skills with people who have speech and language difficulties. The students will learn strategies to assist disabled persons to communicate, despite their impairments.
Prerequisite(s): TA1390

TA2521 - Mental Health Concepts and Techniques •
This course provides a general overview of common mental health conditions and their management, and theories of mental illness and psychosocial practice. As well, current issues in mental health and social-cultural and developmental perspectives will be explored. To facilitate integration of theory and knowledge into practice, consideration will be given to the role of the OTA, PTA and Rehabilitation Assistant in this setting.

TA2615 - Therapeutic Skills II for the Rehabilitation Assistant (OTA and PTA) •
This course will build on the knowledge learned in *Therapeutic Skills I for OTA* and *Therapeutic Skills I for PTA*. The course also focuses on the duties and role of the Rehabilitation Assistant and the integration of OTA and PTA skills in this role. Professional behaviours such as responsibility and accountability are addressed. Emphasis will be placed on therapeutic interventions with specific populations.
Prerequisite(s): All courses offered in Semesters 1, 2, 3 and 4

TA2671 - Therapeutic Skills I for OTA •
This course will introduce students to, and familiarize them with, the theoretical knowledge and entry-level practical skills of the Occupational Therapist Assistant. Students will learn practical skills in the areas of therapeutic exercise and activity, occupations of daily living (self-care, productivity, and leisure), adapted techniques, modification of the environment and the use of adaptive equipment. These skills will be applied to a variety of disabling conditions in the rehabilitation setting.
Prerequisite(s): TA1601, TA1231, TA1612, TA1701

TA2685 - Therapeutic Skills I for PTA •
The purpose of this course is to provide a foundation of exercise principles and techniques and the use of therapeutic modalities. As well, the student will learn to adjust and fit ambulatory devices, and apply the techniques learned to the most common neurological and musculoskeletal conditions.
Prerequisite(s): TA1601, TA1231, TA1612, TA1701

TA2710 - Clinical Placement III for Rehabilitation Assistant (OTA and PTA)
This six-week clinical placement will provide the opportunity for students to continue to develop the therapeutic skills learned in *Therapeutic Skills I for OTA* and *Therapeutic Skills I for PTA*. The student will demonstrate in the clinical setting advanced handling and positioning skills and therapeutic interventions. Students will utilize appropriate equipment and techniques to enhance client participation in therapeutic procedures. The student will practice entry level competence as a Rehabilitation Assistant, integrating both roles and the higher level clinical skills learned in *Therapeutic Skills II for the Rehabilitation Assistant* (OTA and PTA). The clinical placement setting will be determined by the clinical instructor and will be supervised by an Occupational Therapist or Physiotherapist and/or an Occupational Therapist Assistant or Physiotherapist Assistant.
Prerequisite(s): All other program courses

TA2741 - Clinical Placement II for OTA •
This five-week clinical placement will provide the opportunity for students to continue to develop their therapeutic skills learned in *Therapeutic Skills I for OTA* and *Advanced Clinical Skills* and practice entry level competence as an Occupational Therapist Assistant.
Prerequisite(s): TA1701, TA2671, TA1612

TA2751 - Clinical Placement II for PTA •
This five-week clinical placement will provide the opportunity for students to continue to develop their therapeutic skills learned in *Therapeutic Skills I for PTA* and *Advanced Clinical Skills* and practice entry level competence as a Physiotherapist Assistant.
Prerequisite(s): TA1701, TA2685, TA1612

TD2100 - Thermodynamics
This is an introductory course in thermodynamics. The course will provide the student with the basics of thermodynamics and its application to various processes.
Prerequisite(s): PH1100, CH1121

TD2120 - Thermodynamics
This course follows from Thermodynamics TD2100 and applies the knowledge obtained in that course to specific mechanical systems. These applications are ones which the mechanical engineering technologist is likely to use in his/her future work.
Prerequisite(s): TD2100

TD2130 - Heat Transfer & Flow Assurance
The course will introduce the fundamental concepts of heat transfer and flow assurance. It will further elaborate these concepts with theories and applications to the solutions of practically relevant petroleum engineering problems.
Prerequisite(s): FM2102, TD2100
Co-requisite(s): PM2330

TD2140 - Thermodynamics
This course follows from Thermodynamics TD2100 and applies the knowledge obtained in the course to specific mechanical systems. These applications are ones which the mechanical engineering technologist is likely to use in his or her future work.
Prerequisite(s): TD2100

TD3100 - Thermodynamics
This is both a theory and practical course in the topic of refrigeration and air conditioning. It should draw on knowledge gained in Thermodynamics in the specific application refrigeration.
Prerequisite(s): TD2100

TD3140 - Heat Transfer
This is an introductory course in heat transfer which is designed to familiarize the student with the subject and its application to various system components that they may work with as mechanical engineering technologists.
Prerequisite(s): TD2100

TM1100 - Medical Terminology I •
This course is designed to guide the student from the fundamentals of word building to complete mastery of a medical word building system. Correct spelling and pronunciation are emphasized.

TM1111 - Medical Terminology
This course provides the engineering technologist with the terminologies commonly used in the areas of practice encountered in a healthcare environment to allow them to effectively communicate, on a technical level, with other healthcare professionals. The course integrates the terms for anatomy, physiology and pathology of specified body systems in a manner that meets these needs.

TM1130 - Medical Terminology •
This course is designed to guide the student from the fundamentals of word building to complete mastery of a medical word-building system. Correct spelling and pronunciation are emphasized. The course integrates the terms for anatomy, physiology, and pathology of specified body systems in a manner that maximizes learning opportunities.

TM1310 - Technical Modeling - Mechanical Drawings
This intermediate level course is designed to provide students with the ability to interpret and prepare drawings used in specialized areas of mechanical engineering. Students will prepare and interpret Assembly Drawings, Fit Tolerance Drawings, Piping Drawings, Welding Drawings and P & ID diagrams.
Prerequisite(s): EG1430

TM1320 - Technical Modeling - 3D Modeling
This is an advanced course in computer aided drafting and design. Parametric 3D CAD software is used for both virtual prototyping of mechanical systems and development of related working drawings. The command tools commonly used for 2D sketch development, 3D feature creation, and part assembly, 2D drawing generation, 2D drawing annotation, and 3D simulation are explored. For 2D drawing annotation, particular emphasis is placed on the command tools used for geometric dimensioning and tolerancing.
Prerequisite(s): EG1430

TM2100 - Medical Terminology II •
This course is a continuation of TM1100 with emphasis on building and interpreting terminology related to the anatomy, physiology, and pathology of the human body. Correct spelling and pronunciation are emphasized**.**
 Prerequisite(s): TM1100

TP1130 - Food Safety & Sanitation
This course will enable the student to apply safe food handling procedures, personal hygiene and sanitation methods used in a Retail Meat Cutter work environment. The student will be introduced to biological, chemical and physical hazards present in a plant or retail environment and discuss methods to eliminate all hazards that may be present.

TP1140 - Hand & Power Tools
Students will identify, describe and use various hand and power tools required in a plant or retail work setting. Safe use of these tools is stressed throughout this course along with maintenance procedures and sanitation requirements to ensure a healthy and safe environment for working with meat, fish and poultry products.

TP1150 - Meat Science & Nomenclature
Students will study the composition of meat and meat muscle with emphasis on what affects meat for market conditions and what effects processing can have on a final product. Nomenclature will be discussed and used throughout this course to enable the student to identify and use proper names and terminology associated with the industry.

TP1160 - Meat Processing & Cutting
Students will describe and practice how to receive products and properly store and rotate product in a refrigerated environment. Students will then learn to identify, cut and process block ready beef and pork, poultry, lamb and veal. Emphasis will be on accuracy of cuts at the onset of practical training but will be graded on production as well as accuracy as the student gains experience. The importance of yield and efficiency will be introduced to students.
Prerequisite(s): TP1150

TP1170 - Seafood Fabrication
This course will introduce seafood products to the student who must be able to identify, cut and process seafood such as cod, salmon, halibut, herring and mackerel. Trim and yield will be emphasised to the student.
TP1180 - Value Added Products
This course will introduce the student to value added products such as sausage and smoke enhanced meats to enhance a retail outlet's product line. Students will participate in the preparation and processing of selected value added products to enhance their practical skills.
Prerequisite(s): TP1160, TP1170

TP1190 - Nutrition & Cooking
The student will describe calorie makers, protein, carbohydrates and fats associated with products used in the retail meat cutting industry. The student will also describe and use cooking methods to enhance retail product to be offered for retail sale. Product knowledge is greatly emphasized here to ensure students have the knowledge necessary to deal with consumer inquiries.
Prerequisite(s): TP1180

TP1200 - Merchandising & Packaging
The student will develop skills to understand market conditions for beef, pork, lamb, poultry and fish while maximizing yield from product. The student will develop skills to enhance retail displays by incorporating value added products and specialty items to ensure sales are maximized. The course will also entail portion control, nutritional values of product, steps and cycles associated with marketing products and factors that affect pricing. The importance of attractive product packaged in the correct way will be explained. Salesmanship and customer relations will be emphasized throughout.

TR1100 - Cultural Tourism & the Arts
This course introduces the concept of Cultural Tourism and its connection to the Arts. Students will learn the principles and typologies of the cultural tourism industry while focusing on the effect that it has on art, heritage, culture and vice versa. Students will examine tourism's leading role in community economic development through the presence and promotion of the arts & culture.

Arts, cultural & heritage tourism have emerged as a major market segment and a significant pull factor to travel to a specific location. A major aspect of this course is an understanding of how Newfoundland and Labrador and other destinations around the world can capitalize on its arts, culture & heritage in a sustainable manner.

TR1110 - Tourism & Technology
Technology touches almost every aspect of the tourism industry. This course is designed to look at some of the common technology used today in the tourism industry and how tourism businesses use the technology to connect with potential customers. Technology is a powerful tool for tourism businesses if they maximize the options available.

TR1120 - Professional Certifications I
The success of Canada's tourism industry depends on the quality of service guests receive when they visit our hotels, restaurants, parks, museums, and numerous other attractions and events. This quality of service is enhanced through training and certification. This course will encompass nationally recognized credentials granted to a candidate upon successful demonstration of competence as outlined in a series of workshops and seminars. Certification is one of the most important ways of promoting and recognizing a highly skilled workforce.
Students should be aware that additional fees apply for the certifications.

TR1130 - Professional Certifications II

The success of Canada's tourism industry depends on the quality of service guests receive when they visit our hotels, restaurants, parks, museums, and numerous other attractions and events. This quality of service is enhanced through training and certification. This course will encompass nationally recognized credentials granted to a candidate upon successful demonstration of competence as outlined in a series of workshops and seminars. Certification is one of the most important ways of promoting and recognizing a highly skilled workforce.
Students should be aware that additional fees apply for the certifications.

TR1600 - NL Tourism Destinations

This course explores Newfoundland and Labrador tourism destinations and delivers an introduction into the rich culture, history, archaeology and geology for which the province is world-renowned, the diverse flora and fauna, the whales, seabirds and icebergs, attractions both physical and man-made, and the festivals and special events that make the province popular with tourists. Students will discover that special charm that makes Newfoundland and Labrador unique. Students will participate in FAM (familiarization) tours to regional tourist attractions to develop a greater understanding and appreciation of the tourism products available.

TR1610 - Intro to Tourism

This course is an introductory course designed to give students an overall view of the tourism industry. Students will explore the theories of travel motivation before moving into the five major industries of tourism. Issues and challenges facing tourism will also be covered.

TS1510 - Occupational Health and Safety

This course is designed to give participants the knowledge and skills necessary to interpret the Occupational Health and Safety Act, laws and regulations; understand the designated responsibilities within the laws and regulations; the right to refuse dangerous work; and the importance of reporting accidents. Upon successful completion of this unit, the apprentice will be able to: prevent accidents and illnesses; improve health and safety conditions in the workplace.

TS1520 - Workplace Hazardous Materials Information System (WHMIS)

This course is designed to give participants the knowledge and skills necessary to define WHMIS, examine hazard identification and ingredient disclosure, explain labeling and other forms of warning, and introduce material safety data sheets (MSDS).

TS1530 - First Aid

This course is designed to give the apprentice the ability to recognize situations requiring emergency action and to make appropriate decisions concerning first aid.
Prerequisite(s): Complete a St. John Ambulance Standard First Aid Certificate course.

TS1550 - Workplace Hazardous Materials Information System (WHMIS)

This course is designed to give participants the knowledge and skills necessary to define WHMIS, examine hazard identification and ingredient disclosure, explain labeling and other forms of warning, and introduce material safety data sheets (MSDS).

TX1100 - Fibre & Fabric Exploration

This course is an introductory course designed to introduce students to various fibers and their properties. Students will learn the basics of studio safety, fibre properties, techniques and applications.

TX1200 - Introduction to Sewing

This course will introduce students to basic sewing skills. Students will be introduced to the industrial straight stitch, the four-thread overlock, the five-thread finishing machine, the industrial blind hemming machine, the double needle machine, the industrial walking foot machine, industrial fur sewing machine and the industrial gravity feed steam iron. Topics include basic sewing tools and techniques transferred into a series of weekly sewing samples while also gaining knowledge in basic flat pattern construction and application. Students will be required to make a pattern, create a knit garment and create a duplicate garment.

TX1210 - Industrial Sewing

In this course, students will use industrial sewing machines and equipment. Students will work with the industrial straight stitch, the four-thread overlock, the five-thread finishing machine, the industrial blind hemming machine, the double needle machine, the industrial walking foot machine, industrial fur sewing machine and the industrial gravity feed steam iron in an industrial production setting. Students will also use industrial cutting tools. Students will develop speed and accuracy using industrial equipment and produce samples according to industry standards. As a group, students are required to complete a production of 50-100 products and use their computer skills to design and create labeling for the product.
Prerequisite(s): TX1200, TX1400
Co-requisite(s): CG1400

TX1220 - Fabric Design I

This course introduces students to basic fabric design, construction and finishing techniques. Content includes knit, weave and felt. Knit and felt includes shaping, texture, and colour usage, while weave content covers basic weave structure, texture and colour in tapestry and floor loom weaving. Students will learn to maintain accurate records of their work.
Prerequisite(s): VA1200, TX1100

TX1225 - Surface Design I
This is an introductory course in surface design techniques. Topics covered include basic dye chemistry and techniques, basic surface embellishment techniques and basic rug hooking techniques. Students will learn to maintain accurate records of their work.
Prerequisite(s): VA1200, TX1100

TX1400 - Apparel Design I
This is the first in a series of courses in apparel design. An overview of the apparel industry is provided with emphasis placed on mastering basic sewing techniques for the purpose of producing garments according to industry standards. Students are required to complete a sleeveless dress and pant.
Prerequisite(s): TX1200, VA1200

TX2100 - Art Marketing
In this course, students will create an online presence for display of their work. Topics include photography, website development, social media, branding, development and maintenance.
Prerequisite(s): GA1130, CM1521

UL4110 - Ultrasound Physics
This course is designed to instruct the student in the theoretical and practical application of ultrasound physics and instrumentation. Selected topics include the interaction of sound and matter, properties of ultrasound transducers, pulse echo instrumentation, images and artifacts, Doppler instrumentation, instrument quality assurance, bioeffects and safety.

UL4210 - Obstetrics
This course is designed to enable the student to acquire a comprehensive knowledge of obstetrics. The didactic phase will include instruction in normal embryo / fetal growth and development from fertilization to parturition. Emphasis will be placed on cross-sectional anatomy, pathophysiology, examination procedures and protocol, and normal /abnormal sonographic appearances.
Prerequisite(s): Successful completion of semester 1
Co-requisite(s): UL4230, UL4311, UL4610

UL4230 - Gynecology
This course is designed to enable the student to acquire a comprehensive knowledge of female pelvic anatomy and physiology. The didactic phase of the program will include instruction in pelvic musculature, peritoneal compartments, reproductive organs and vasculature. Emphasis will be placed on cross-sectional anatomy, pathophysiology, examination procedures and protocol, and normal / abnormal sonographic appearances.
Prerequisite(s): Successful completion of semester 1
Co-requisite(s): UL4311, UL4210, UL4610

UL4310 - Basic Scanning I
This is a comprehensive course designed to provide the student with sufficient practice to acquire the basic skills necessary to produce diagnostic ultrasound images. Instruction will be provided in ultrasound practice, principles and protocol. Emphasis will be placed on basic, alternate and specialized imaging technique utilized for abdominal and vascular examinations.
Co-requisite(s): UL4420, UL4430

UL4311 - Basic Scanning II
This is a comprehensive course designed to provide the student with sufficient practice to acquire the basic skills necessary to produce diagnostic ultrasound images. Instruction will be provided in ultrasound practice, principles and protocol. Emphasis will be placed on basic, alternate and specialized imaging techniques utilized for superficial obstetrical and gynaecological examinations.
Prerequisite(s): Successful completion of semester 1
Co-requisite(s): UL4210, UL4230, UL4610

UL4420 - Abdomen
This course is designed to enable the student to acquire a comprehensive knowledge of abdominal ultrasound. The didactic phase of the program will include instruction in abdominopelvic organs, vasculature and a profession overview. Emphasis will be placed on cross-sectional anatomy, pathophysiology, examination procedures and protocol, and normal/abnormal sonographic appearances.
This course is designed to enable the student to acquire a comprehensive knowledge of abdominal ultrasound. The didactic phase of the program will include instruction in abdominopelvic organs, vasculature and a profession overview. Emphasis will be placed on cross-sectional anatomy, pathophysiology, examination procedures and protocol, and normal/abnormal sonographic appearances.
Co-requisite(s): UL4430, UL4310

UL4430 - Abdomen Pathology
This course is designed to enable the student to acquire a comprehensive knowledge of the pathology encountered with abdominal ultrasound. Emphasis will be placed on cross-sectional anatomy, pathophysiology to know the abnormal sonographic appearances.
Co-requisite(s): UL4420, UL4310

UL4510 - Superficial Structures
This course is designed to enable the student to acquire a comprehensive knowledge of superficial organs and structures. The didactic phase of the program will include instruction in thyroid, parathyroid, scrotal, testes, upper extremity venous, muscloskeletal and salivary gland anatomy. Emphasis will be placed on cross-sectional anatomy, pathophysiology, examination procedures and protocol, normal / abnormal sonographic appearances.
Prerequisite(s): Successful completion of 2nd semester.
Co-requisite(s): UL4611

UL4610 - Clinical Training
This phase of the program is designed to enable students to acquire, to the fullest extent, the technological skills necessary to become competent in the practice of ultrasonography. Emphasis is placed on extensive "hands on" scanning in the clinical setting. Upon completion of training the student will be able to produce high quality scans in all general and most specialty areas in an efficient and effective manner.
Prerequisite(s): Successful completion of semester 1
Co-requisite(s): UL4210, UL4230, UL4311

UL4611 - Clinical Training
This phase of the program is designed to enable the student to acquire, to the fullest extent, the technological skills necessary to become competent in the practice of ultrasonography. Emphasis is placed on extensive "hands on" scanning in the clinical setting. Upon completion of training the student will be able to produce high quality scans in all general and most specialty areas in an efficient and effective manner.
Prerequisite(s): Successful completion of semester 2
Co-requisite(s): UL4510

VA1100 - Introduction to Drawing
This course is designed to introduce students to the rudiments of drawing. Students practice observation, identify variations within subject matter, and translate these visions into the drawn form. A variety of basic techniques and drawing styles are introduced and developed during the semester.

VA1101 - Drawing Application
This course consolidates and refines skills developed during the Introduction to Drawing course. Experimentation with various media qualities, techniques, and compositional studies are stressed in relation to developing the drawing. Particular individual attention is paid to drawing problem areas to ensure that the student develops strong drawing skills.
Prerequisite(s): VA1100

VA1110 - Drawing Methods & Media •
Students will be engaged in observational drawing exercises using historical and contemporary drawing processes while developing integral perceptual and technical skills. Students will learn to see and evaluate the visual world and learn to translate visual impressions using a wide range of media. Over the duration of the course, students will document the improvement in their individual drawing skills through the keeping of a working portfolio. Students will benefit from both group and individual instruction and critique.

VA1115 - 2D Design •
This is an introductory course in the elements and principles of design related to two dimensional works. Students will be provided with an understanding of design concepts, the elements of design, the principles of design, and how they can be used in visual communications.

VA1120 - Digital Imaging •
This course introduces students to the digital manipulation of images. Working from photographs, drawn and scanned images and objects, students will focus on the creative process of image development using Adobe Photoshop Creative Cloud. The course will emphasize digital imaging as a tool for the development of ideas, image design and critical thinking. Selected work produced in this course will contribute to personal portfolios.
Prerequisite(s): PY1150

VA1130 - Drawing Fundamentals
Students will learn the rudiments of drawing as a means of communicating objective ideas. Students will study fundamental drawing techniques with a view of developing accurate visual illustration skills required in design, and other collaborative problem solving disciplines.

VA1140 - Figure Drawing •
Students will develop their observational skills to see and analyze the human figure through focus on different principles of drawing using a variety of media in a sequence of exercises to develop insight into the form, structure and gesture of the human figure. Students will continue to contribute work to their personal portfolios.
Prerequisite(s): VA1110

VA1160 - Animation Drawing I
Students will explore the fundamental principles of cel animation using hand drawn sequential images and timing charts.
Co-requisite(s): VA1130

VA1161 - Animation Drawing II

Students will build upon the skills acquired in VA1160 Animation Drawing I and VA1130 Drawing Fundamentals. Through a series of exercises and applying advance principles of animation, students will learn to apply hand drawn sequential images and timing.
Prerequisite(s): VA1160; VA1130

VA1170 - 3D Design •

Students will utilize the elements and principles of art and design, and apply them to the conceptualization and creation of three-dimensional works of art. The three dimensions will be explored through the use of historical and contemporary media and approaches. Artwork will be analyzed through personal and peer critique. It will emphasize conceptual reasoning and consideration of material choice, craft, form, space, site, presentation and context. Students will select work from this course for their portfolios.

VA1180 - Time-based Media •

This course will look at how the concepts of time, movement and transformation are utilized within the creative industries. Students will focus on developing the basic concepts, tools, vocabulary and principles used in time-based creative processes to create visual narratives. A short-stop motion animation piece will be produced along with other related projects. It will provide a foundation for more advanced exploration of time-based media practices. Students will develop production and analytical skills through individual and collaborative projects.
Prerequisite(s): PY1150, VA1115

VA1185 - Studio Practice •

This course will develop the skills required for the production of a thematic body of artwork with an emphasis on conceptual and creative processes. Students will develop a written proposal for the production of artwork investigating a thematic concept through research of a topic, media choice and the technical processes required. The course will prepare students for specialized arts training programs that require skills in research, production and documentation of artwork.

VA1200 - Elements of Design

This is an introductory course in design elements. Students will be introduced to the main elements of design and explore basic design concepts through in-class activities; and how these elements can be used in visual communications. Students will have the opportunity to work through one main term project while applying their knowledge of the elements of design.

VA1201 - Principles of Design

This is an introductory course which discusses the basis of design principles for visual design. Students will be introduced to the principals of design and will explore their application through in class activities and a term project. Students will learn how these concepts apply to visual communications, and how they support the connection between the intent and content of a piece.
Prerequisite(s): VA1200

VA1230 - Graphic Design I

Students will gain a clear understanding of the elements and principles of design, and how they can be utilized for basic graphic arts tasks. Students will also be introduced to the role of the Graphic Designer in the graphics industry and will gain exposure to the basic operation of a design studio environment.

VA1231 - Graphic Design II

Students will develop graphic design skills using digital tools. A specific focus of the course is to introduce students to the design requirements of business, including information graphics, business stationery, signage and display advertising.
Prerequisite(s): VA1230, GA1120, GA1430

VA1400 - Colour Theory •

This introductory course offers students an opportunity to gain a basic understanding of the elements and principles of colour theory and how colour can be used to create more effective visual designs through using acrylic paints, and in combination with dye applications.

VA1600 - Sculpture for Animators

Students will design, document and transpose two dimensional character designs into three dimensional objects using a tactile approach, figurative subjects, and manual clay sculpture techniques.
Co-requisite(s): VA1130

VA2100 - Intermediate Drawing

This course will consolidate and refine skills developed in the Introduction to Drawing and Drawing Application courses. The use of various materials, compositions, and drawing techniques are stressed in relation to developing intermediate technique and style in drawing. With individualized guidance from the instructor, students are encouraged to develop more personal responses in all aspects of drawing.
Prerequisite(s): VA1101

VA2101 - Advanced Drawing
This course is designed to allow students to create a body of drawings which demonstrates their ability to make personal choices in all aspects of developing final drawings. Students will incorporate personal ideas and content in this body of work and continue to refine their use of various materials, composition and drawing techniques in consultation with the instructor.
Prerequisite(s): VA2100

VA2170 - Life Drawing
Students will develop drawing abilities and powers of observation using live models and the time honored practice of drawing from life.
Prerequisite(s): VA1130

VA2250 - Application of Design Theory I
This course is designed to consolidate and refine skills developed in the Elements of Design and Principles of Design courses. Particular attention is paid to developing a personal design process, an individual working method in design that allows the student to use design theory in practical applications. Students will work through a term project that looks at the different aspects of design and how sampled changes can enhance or alter a design concept.
 Prerequisite(s): VA1201

VA2251 - Application of Design Theory II
In this course students will have the opportunity to design and produce a body of work that will reflect the accumulated knowledge and experience gained in previous design courses. Students will demonstrate their knowledge of intent and content to create successful and unique pieces, and work through a design process specific to the student. Particular attention is given to independent thinking and the development and creation of personal ideas in terms of style and content with further emphasis on critical analysis.
Prerequisite(s): VA2250

VA2800 - Package Design
Students will be introduced to the theory and practice of package design. Students will also be exposed to a variety of packaging concepts and options, and will apply their knowledge to the development of several packaging projects that will incorporate their own ideas. Students will develop packaging solutions that meet clients' needs using industry standard software.
Prerequisite(s): GA1120, GA1430, GA1640, PY1200, GA1220

VA3550 - Screening & Peer Critique
Students will engage in weekly peer review sessions during which all students will demonstrate the projects that they are working on. The intent is to enable each student to have projects critiqued by peers and the instructor for the program, while availing of the opportunity to learn from the creative applications of those same peers.

WA1160 - Fluid Mechanics
This course is included in the Civil Engineering Technology program as an engineering science to provide the learner with a knowledge of the principles of fluid mechanics and knowledge to solve practical applied problems.
Prerequisite(s): MA1101; PH1101

WA1230 - Hydrology
This course is designed to introduce the learner to some of the major concepts of surface hydrology.
Co-requisite(s): MA1530

WC1155 - Work Term I
The work term provides a unique learning experience in a real work place setting. Work terms must be program relevant, 12-16 weeks in duration and be a normal work week in terms of at least 35 hours, remunerated (paid), and evaluated. Participation in the work term is determined through a competitive process and successful completion of all courses prior to the work term, with a Grade Point Average of at least 2.00 mandatory for work term eligibility.

This work term follows the successful completion of Semester 2. For most students, it represents their first professional work experience in a business environment and, as such, represents their first opportunity to evaluate their choice of pursuing a career in information technology. Students are expected to learn, develop, and demonstrate the high standards of behaviour and performance normally expected in the work environment.

During the on-the-job experience, students develop their employability and technical skills, further enhancing their personal growth. The students are learning from the new network of contacts and widening their perception of life and career choices.
Prerequisite(s): Grade Point Average of 2.00, CM1400, CP1550, CP1850, MA1900, CR2800, CR1130, CP1420, CM1401, CP3415, CP1935, CP1890, CP1520, CP1461, PD1105

WC1200 - Work Term I

For most learners, this work term represents their first experience in an Electrical engineering environment and therefore presents them with their first opportunity to evaluate their career choice. This work term follows the successful completion of Semester 6 in the Electrical Engineering Technology (Power and Controls) (Co-op) program. Learners are expected to learn, develop and demonstrate the high standards of behaviour and performance normally expected in the work environment. Learners will be evaluated by their employer and submit a work term report to the Co-op Office. This work term must be program relevant, a minimum of 10/11 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar

WC1201 - Work Term II

The second work term provides learners possessing significant knowledge from the Electrical Engineering Technology (Power and Controls) (Co-op) program with the opportunity to contribute to an employer's operation. This work term follows the successful completion of Semester 8. Learners are expected to further develop and expand their knowledge and work-related skills, and should be able to accept increased responsibility and challenge in the workplace. In addition, learners are expected to demonstrate an ability to deal with increasingly complex concepts and problems. Learners should conscientiously assess the various opportunities relative to their individual interests. A substantive work report is also to be prepared by the learner demonstrating competence in both technical content and communication skills and submitted to the Co-op Office. This work term must be program relevant, a minimum of 12 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar

WC1300 - Work Term I

For most students, this work term represents their first experience in a Geomatics/Surveying environment and, therefore presents them with their first opportunity to evaluate their career choice. This work term follows the successful completion of Semester 5 in the Geomatics/Surveying Engineering Technology (Co-op) Program. Students are expected to learn, develop and demonstrate the high standards of behavior and performance normally expected in the work environment. Students will be evaluated by their employer and submit a work term report to the Co-op Office. This work term must be program relevant, a minimum of 12 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar.

WC1301 - Work Term II

The second work term provides students possessing significant knowledge from the Geomatics/Surveying Engineering Technology (Co-op) program with the opportunity to contribute to an employer's operation. This work term follows the successful completion of Semester 7. Students are expected to further develop and expand their knowledge and work-related skills and should be able to accept increased responsibility and challenge in the workplace. In addition, students are expected to demonstrate an ability to deal with increasingly complex concepts and problems. Students should conscientiously assess the various opportunities relative to their individual interests. A substantive work report is also to be prepared by the student demonstrating competence in both technical and communication skills and submitted to the Co-op Office. This work term must be program relevant, a minimum of 12 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar.

WC1310 - Co-op Work Term

For most students, this work term represents their first experience in the field of Electronic Systems Engineering Technology and therefore presents them with their first opportunity to evaluate their career choice. This work term follows the successful completion of Semester 2 in the Electronic Systems Engineering Technology (Co-op) Program. Students are expected to learn, develop and demonstrate the high standards of behavior and performance normally expected in the work environment. Students will be evaluated by their employer and submit a work term report to the Co-op Office. This work term must be program relevant, a minimum of 12 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar

WC1400 - Work Term I

For most students, this work term represents their first experience in an industrial engineering environment and therefore presents them with their first opportunity to evaluate their career choice. This work term follows the successful completion of Semester 5 in the Industrial Engineering Technology (Co-op) Program. Students are expected to learn, develop and demonstrate the high standards of behavior and performance normally expected in the work environment. Students will be evaluated by their employer and submit a major reflective work term assignment(s) to the Co-op Office. This work term must be program relevant, a minimum of 12 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar

WC1401 - Work Term II

The second work term provides students possessing significant knowledge from the Industrial Engineering Technology (Co-op) program with the opportunity to contribute to an employer's operation. This work term follows the successful completion of Semester 7. Students are expected to further develop and expand their knowledge and work-related skills and should be able to accept increased responsibilities. In addition, students are expected to demonstrate an ability to deal with increasingly complex concepts and problems. Students should conscientiously assess the various opportunities relative to their individual interests. A major reflective assignment is also to be prepared by the student demonstrating competence in both technical content and communication skills and submitted to the Co-op Office. The emphasis of this assignment will be placed on the accumulated experiences and skill development over the course of both work terms. This work term must be program relevant, a minimum of 12 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar.

WC1460 - Work Term

For most learners, this work term represents their first experience in a civil engineering environment and therefore presents them with their first opportunity to evaluate their career choice. This work term follows the successful completion of Semester 5 in the Civil Engineering Technology (Co-op) Program. Learners are expected to learn, develop and demonstrate the high standards of behavior and performance normally expected in the work environment. Learners will be evaluated by their employer and submit a work term report within four weeks of returning to classes. This work term must be program relevant, a minimum of 12 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar

WC1520 - Co-op Work Term

This work term for most students represents their first professional work experience in a service/production environment and as such represents their first opportunity to evaluate their choice of pursuing a career in the Environmental Engineering Technology field. Students are expected to learn, develop, and demonstrate the high standards of behaviour and performance normally expected in the work environment. A substantive work report is also to be prepared by the student demonstrating competence in both technical content and communication skills.
Prerequisite(s): Eligibility according to Co-op regulations in current college calendar.

WC1700 - Work Term I

For most students, this work term represents their first experience in a computing systems engineering environment and therefore presents them with their first opportunity to evaluate their career choice. This work term follows the successful completion of Semester 5 in the Computing Systems Engineering Technology (Co-op) Program. Students are expected to learn, develop and demonstrate the high standards of behavior and performance normally expected in the work environment. Students will be evaluated by their employer and submit a major reflective work term assignment(s) to the Co-op Office. This work term must be program relevant, a minimum of 12 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar and successful completion of WC1325

WC1701 - Work Term II

The second work term provides students possessing significant knowledge from the Computing Systems Engineering Technology (Co-op) program with the opportunity to contribute to an employer's operation. This work term follows the successful completion of Semester 7. Students are expected to further develop and expand their knowledge and work-related skills and should be able to accept increased responsibility and challenge in the workplace. In addition, students are expected to demonstrate an ability to deal with increasingly complex concepts and problems. Students should conscientiously assess the various opportunities relative to their individual interests. A major reflective assignment is also to be prepared by the student demonstrating competence in both technical content and communication skills and submitted to the Co-op Office. This work term must be program relevant, a minimum of 12 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar

WC1830 - Work Term

For most students, this work term represents their first experience in a chemical processing engineering environment and therefore presents them with their first opportunity to evaluate their career choice. This work term follows the successful completion of Semester 5 in the Chemical Process Engineering Technology (Co-op) Program. Students are expected to learn, develop and demonstrate the high standards of behavior and performance normally expected in the work environment. Students will be evaluated by their employer and submit a work term report to the Co-op Office. This work term must be program relevant, a minimum of 10/11 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar

WC1850 - Co-op Work Term

For most students, this co-op work term represents their first experience in an Agricultural Industry environment and therefore presents them with their first opportunity to evaluate their career choice. This work term follows the successful completion of Semesters 1 & 2 in the Agriculture Technician 2 Year (Co-op) Program. Students are expected to learn, develop and demonstrate the high standards of behavior and performance normally expected in the work environment.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar

WC1900 - Work Term I
For most learners, this work term represents their first experience in a mechanical engineering environment and therefore presents them with their first opportunity to evaluate their career choice. This work term follows the successful completion of Semester 5 in the Mechanical Engineering Technology (Manufacturing) (Co-op) program. Learners are expected to learn, develop and demonstrate the high standards of behaviour and performance normally expected in the work environment. Learners will be evaluated by their employer and submit a work term report to the Co-op Office. This work term must be program relevant, a minimum of 12 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar

WC1901 - Work Term II
The second work term provides learners possessing significant knowledge from the Mechanical Engineering Technology (Manufacturing) (Co-op) program with the opportunity to contribute to an employer's operation. This work term follows the successful completion of Semester 7. Learners are expected to further develop and expand the knowledge and work-related skills and should be able to accept increased responsibility and challenge in the workplace. In addition, learners are expected to demonstrate and ability to deal with increasingly complex concepts and problems. Learners should conscientiously assess the various opportunities relative to their individual interests. A substantive work report is also to be prepared by the learner demonstrating competence in both technical content and communication skills and submitted to the Co-op Office. This work term must be program relevant, a minimum of 12 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.
Prerequisite(s): Eligibility according to Co-op regulations in current College calendar

WC2151 - Work Term II
This is the second work term exposure. The student is expected to further develop and expand her/his knowledge and work-related skills and should be able to accept increased responsibility and challenges. In addition, the student is expected to demonstrate an ability to deal with increasingly complex technical concepts and problems. The student should conscientiously assess the various opportunities relative to their individual interests and career aspirations.

The work term provides a unique learning experience in a real work place setting. Work terms must be program relevant, 12-16 weeks in duration and be a normal work week in terms of at least 35 hours, remunerated (paid), and evaluated. Participation in the work term is determined through a competitive process. During the on-the-job experience, students develop their employability and technical skills, further enhancing their personal growth.
Prerequisite(s): Grade Point Avery of 2.00, CM1400, CP1550, CP1850, MA1900, CR2800, CR1130, CP1420, CM1401, CP3415, CP1935, CP1890, CP1520, CP1461, PD1105, WC1155, EP2410, CM2200, CP1210, CP2275, CP4265, CP1945, PD2310

WC3151 - Work Term III
This is the final work term. The students should have sufficient academic grounding and work experience to contribute in a positive manner to the management and problem-solving processes needed and practiced in the work environment. The student should become better acquainted with her/his discipline of study, should observe and appreciate the attitudes, responsibilities, and ethics normally expected of information technology professionals and should exercise greater independence and responsibility in her/his assigned work functions.

The work term provides a unique learning experience in a real work place setting. The work terms must be program relevant, 12-16 weeks in duration and be a normal work week in terms of at least 35 hours, remunerated (paid), and evaluated. Participation in the work term is determined through a competitive process. During the on-the-job experience the student develops her/his employability and technical skills, further enhancing her/his personal growth.
Prerequisite(s): Grade Point Average of 2.00, CM1400, CP1550, CP1850, MA1900, CR2800, CR1130, CP1420, CM1401, CP3415, CP1935, CP1890, CP1520, CP1461, PD1105, WC1155, EP2410, CM2200, CP1210, CP2275, CP4265, CP1945, PD2310, CP4471, WC2151, CP2561, CP4281, CR1350, CP2845, CP1290

WD1290 - SMAW for NDT
This course provides training to students enrolled in the Non-Destructive Testing Technician program in Shielded Metal Arc Welding. Students will be introduced to SMAW as it relates to weld faults, causes for weld faults and means of prevention. Learners will also perform basic SMAW welds.

WD1440 - SMAW Fundamentals
This introductory course deals with welding technology and processes as applied to the metal fabricating industry using Shielded Metal Arc Welding (SMAW) processes. Safety practices are emphasized in all aspects of welding applications in the shop. Applications include welding preparations, welding basic joints, and cutting processes, safety and health in the welding industry; basic welding technology.

WD1450 - SMAW Processes
This course is a continuation of SMAW Fundamentals (WD1440) and deals with the fundamentals of welding processes as they relate to Shielded Metal Arc Welding (SMAW) welding, gouging, and cutting. It also introduces the learner to the fundamentals of causes of welding faults, the repair procedures associated with these faults and mechanisms to improve the strength of welds after the welding process has taken place.
Prerequisite(s): WD1440 - SMAW Fundamentals

WD2300 - Welding Failure Analysis

In properly performing a failure analysis, the learners will keep an open mind while examining and analyzing the evidence to foster a clear, unbiased perspective of the failure. Analyzing failures is a critical process in determining the physical root causes of problems. The process is complex, draws upon many different technical disciplines, and uses a variety of observation, inspection, and laboratory techniques.
Prerequisite(s): CF1101, CF2560

WD2450 - Welding Metallurgy

This course explores some of the procedural and metallurgical concerns and microstructures that may affect the weldability and integrity of welded connections in carbon manganese steels, low alloy steels, stainless steels, cast iron and nonferrous metals.
Prerequisite(s): CF1101
Co-requisite(s): WD2650

WD2620 - Wire Feed Arc Welding

This course introduces the learner to the more common industrial semi automatic arc welding processes, the process controls, limitations, and typical industrial applications. Welding processes include GMAW, FCAW, SAW, EGW and ESW. The learner will be required to demonstrate knowledge of and proficiency with the most common of the welding processes noted.
Prerequisite(s): WD1450

WD2650 - GTAW Processes

This course is designed to introduce the learner with the theory and practice of Gas Tungsten Arch Welding (GTAW). The GTAW course includes the selection and set-up of equipment and accessories and their application to aluminum, steel and stainless steel Processes covered include manual and automated processes.
Prerequisite(s): WD1450

WD2680 - Welding Standards & Codes

This course introduces the learner to welding standards and codes related to the fabrication and inspection of pressure vessels, tanks, structures, and structural steels. Applicable codes such as ASME, Section VIII-1, and Section IX and CSA Standards W47.1, W59, W178.1, and W178.2 are discussed in detail. Other similar codes and standards such as ABS, Lloyds, AWS, and DNV will also be discussed and compared with ASME and CSA.
Prerequisite(s): WD1440; EG1310

WD3120 - Cost Analysis Project

The purpose of this course is to introduce the learner to the concepts involved in the design, costing and management of a welded assembly. Through completing the course the learner will set the specifications, develop drawings, plan timelines, prepare project costing, develop inspection and test plan. The learner will submit a document package that represents a proposal for the design and construction/fabrication of the welded assembly. The learner will present the completed proposal to an audience of their classmates and program instructors.
Prerequisite(s): All courses in previous academic semesters and a minimum cumulative GPA of 2.0

WM1110 - Introduction to Gender Studies

This course considers gender, gender studies, and feminisms as areas of exploration from historical, contemporary, transnational, and interdisciplinary perspectives. The aim of this course is to provide a critical framework for thinking about questions regarding gender and related forms of social difference. This course is transferable to MUN Introduction to Gender Studies 1000.

WT1185 - Work Term

The work term is a required portion of the program. The work term provides a unique learning experience in a real work place setting. Work terms must be program relevant, and 15 weeks in duration. Participation in the work term is determined through a competitive process and successful completion of all courses prior to the work term is mandatory for work term eligibility.

This work term follows the successful completion of the preceding academic term. For most students, it represents their first professional work experience in a business environment, and as such represents their first opportunity to evaluate their choice of pursuing a career in information technology. Students are expected to learn, develop, and demonstrate the high standards of behaviour and performance normally expected in the work environment.

During the on-the-job experience students develop their employability and technical skills, further enhancing their personal growth. Through the work term students will experience different business cultures (e.g., public, private, and not-for-profit sector, small and large organizations, etc.). They are learning from the new network of contacts and widening their perception of life and career choices.
Prerequisite(s): MA1521, CR1020, CP3125, CR1120, CM1401, CR1260, CR3456, CR2241, EP1130, CM2200, CR2231, CR2250, CR2260, CR2130, CR2970, CR2270 and Minimum GPA of 2.0

WT1400 - Work Term

For most learners, this work term represents their first experience in a petroleum engineering environment and therefore presents them with their first opportunity to evaluate their career choice. This work term follows the successful completion of Semester 5 in the Petroleum Engineering Technology (Co-op) Program. Learners are expected to learn, develop and demonstrate the high standards of behavior and performance normally expected in the work environment. Learners will be evaluated by their employer and submit a work term report to the Co-op Office. This work term must be program relevant, a minimum of 12 weeks in duration, a normal work week of at least 35 hours, remunerated (paid) and evaluated.

Prerequisite(s): Eligibility according to Co-op regulations in current College Calendar

WT1700 - Biomedical Practicum

This course provides comprehensive on-the-job training for Electronics Engineering Technology (Biomedical) learners in a setting within the health care engineering field. The duration of this particular section is seven weeks and will be scheduled upon the successful completion of the eighth semester. Learners will choose among a variety of differing work environments such as placement in a hospital biomedical engineering department or a private sector medical supply company. Learners' abilities will be assessed by the Employer and the College staff.

Prerequisite(s): Completion of all academic subjects and a cumulative GPA above 2.00; Certificate of completion of Government of NL PHIA course; Signed and witnessed Confidentiality Agreement; Current letter of conduct and vulnerable sector clearance.