ENGINEERING TECHNOLOGY

Welding Engineering Technician

DIPLOMA

- **Two years**
- **September start**
- **Burin Campus**

This program is designed to develop the skills and knowledge required to ensure that welding processes, procedures, and weldments conform to engineering specifications and related codes.

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).

EMPLOYMENT OPPORTUNITIES

The successful graduate of this program will be employed in the welding industry to assume the following responsibilities:

- implement and enforce quality control
- interpret and apply specifications and codes
- determine inspection procedures
- carry out welding inspection and nondestructive testing procedures as defined by specifications and codes
- interpret and evaluate test results
- verify procedures and welder or welding operator qualifications
- verify the application of approved procedures
- prepare and maintain inspection records and reports
- set up equipment, lay out work to specifications and weld to prescribed standards.

ENTRANCE REQUIREMENTS

Eligibility for admission 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: 2205, 3205 (50% minimum in each course)
Academic: 2204 (50% minimum), 3204 (60% minimum)
iii. Science (4 credits) chosen from two of:
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 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 3101A, 3101B, 3101C or 3102A, 3102B, 3102C
ii. Mathematics 1104A, 1104B, 1104C, 2104A, 2104B, 2104C, 3104A, 3104B, 3104C
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 Status

Applicants who do not meet the entrance requirements, 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 Clause.

COURSES

CODE	TITLE	Hrs/wk Cr	Le	La
Semester 1				
CM1400	Technical Report Writing I	3	3	0
ET1100	Electrotechnology	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 3200 or a pass in Math 3201 can be exempted from MA1700

OR

Students who received a combined average of 70% in 2204 and 3204, or a pass in both of 2205 and 3205 can be exempted from MA1700.

Note: The student must apply for the exemption from MA1700 provided they meet the appropriate high school level Math and they receive an appropriate score on the math placement test.

		Cr	Le	La
Semester 2				
CF1100	Materials & Processes	3	3	1
CM1401	Technical Report Writing II	3	3	0
EG1430	AutoCAD Essentials	3	2	2
ET1101	Electrotechnology	4	3	2
MA1101	Mathematics	5	5	0
WD1100	Techn. & Process I	4	2	6
SD1171	Technology Awareness II	2	1	0

		Cr	Le	La
Semester 3 (Technical Intersession I)				
MP2700	Electrical Power Sources	2	1	2
SP1310	Radiation Safety	2	2	1
WD1101	Welding Technology & Processes II	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.

		Cr	Le	La
Semester 4				
CF1101	Materials & Processes	3	3	1
CF2510	Strength of Materials	3	3	1
EG1300	Engineering Graphics	2	0	5
MA2100	Mathematics	5	5	0
SP2310	Quality Control & Inspection I	3	2	3
WD2100	Welding GMAW/FCAW	4	2	6

		Cr	Le	La
Semester 5				
EC1710	Engineering Economics & Supervision	3	3	0
CF2511	Strength of Materials	3	3	1
SP2311	Quality Control and Inspection II	3	2	3
WD2101	Welding Technology & Processes IV	4	2	6
WD2200	Welding Codes	2	2	0
WD2300	Welding Failure Analysis	3	2	2
WD2400	Welding Metallurgy	4	4	0

		Cr	Le	La
Semester 6 (Work Exposure – 1 week)				
OJ1020	Work Exposure			(optional)

		Cr	Le	La
Semester 7 (Technical Intersession II)				
DR3300	Manufacturing Technology	2	1	3
WD3110	Cost Analysis	5	2	8
XD1350	Environment & Ethics	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.