

GIS Applications Specialist (Post Diploma)

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 – with a student to computer ratio of one-to-one. Students will have considerable opportunities to practice their skills in a work-life setting by putting theory into practice.

OBJECTIVES

1. To provide the student with knowledge and generic skills needed to 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. To allow the student to develop and apply skills for the effective presentation of geographic information using software typically encountered in a GIS working environment.
3. To enable the student to learn 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. To give the student the capabilities to understand fundamental principles of database processing with respect to GIS environments and develop skills in designing, implementing and managing databases.
5. To provide the student with a firm foundation of 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. To provide the student with the skills necessary to analyze geographic data using hypothesis testing, significance tests, descriptive and inferential statistics.
7. To allow the student, within a project team, to design and implement a GIS application that addresses pre-defined 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. To allow the student to expand his/her GIS skills to include web-based GIS applications. The student will learn how to build web-based GIS applications to contrib-

- ute to the world of Distributed Geographic Information.
9. To give the student the capability of designing efficient and user-friendly graphical interfaces and integrating Microsoft Windows-based software in the development of GIS applications.
 10. To give the student the capability of designing 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

The College of the North Atlantic entrance requirements for the Geographic Information Systems Applications Specialist (Post Diploma) program is a University Degree or College Diploma in a related discipline. Related fields include, but are not limited to forestry, natural resource sciences, engineering, environmental studies, geology, surveying, geography, business, municipal planning and law enforcement.

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 operating systems used in the industry today and have access to the latest in appropriate computer hardware, software, and field technology – with a student to computer ratio of one-to-one.

EMPLOYMENT OPPORTUNITIES

GIS Applications Specialist graduates have a consistently high placement rate of over 90 percent within six to 12 months of graduating. On graduation, when combined with your previous education/work experience, graduates work in positions as diverse as GIS programmer/analyst, applications specialist/consultant, ecosystem IT manager, utilities manager, database manager, GIS systems operator, and land information manager.

PROGRAM TRANSFERABILITY

Advanced Standing – Students may receive advanced standing for up to 75 percent 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. Applicants who wish to be considered for advanced standing should submit an application with the following documents:

1. Official transcript(s).
2. Calendar description of the courses claimed for credit.

Deadline for receipt of applications by the Registrar is four weeks following registration date. Students seeking advanced standing will not be excused from any course until written authority has been received from the office of the Registrar.

Transfer of Credit Status – Transfer of credit status is awarded for any course completed at any former College provided that the course uses the same course description. 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.

POST DIPLOMA

- One year
- September start
- Corner Brook Campus

COURSES

CODE	TITLE	Hrs/wk		
		Cr	Le	La
Semester 1				
GS1110	Cartographic Concepts	3	2	2
GS1210	GIS Database Principles	2	1	2
GS1310	Principles of GIS	2	1	2
GS1410	Problem Solving and Programming	3	2	2
GS1510	Remote Sensing and Image Analysis	2	1	3
GS1610	Surveying and Mapping	3	2	3
GS1710	Web Programming	3	2	2

Semester 2				
CODE	TITLE	Cr	Le	La
GS2110	Customization of GIS Applications	3	2	2
GS2210	Database Design and Development	2	1	2
GS2310	Project Planning and Management	2	1	2
GS2410	Spatial Analysis and Applications	3	2	2
GS2510	Spatial Statistics	3	2	2
GS2710	Web GIS Development	3	2	2
GS2910	Advanced Remote Sensing	3	2	2

Semester 3 (Intersession)				
CODE	TITLE	Cr	Le	La
GS3110	Advanced Topics in Geomatics	2	1	2
GS3210	Major GIS Project	5	3	6
GS3410	Spatial Database Applications	3	2	3

Exemption Status – Exemption status is granted if the course has a minimum of 70 percent 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. If you have university or college credits and are seeking advanced standing, you must request a copy of your post-secondary transcripts to be forwarded to Student Services for assessment.

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.