

## POST DIPLOMA

- One year
- September start
- Corner Brook Campus

### COURSES

CODE	TITLE	Hrs/wk		
		Cr	Le	La
<b>Semester 1</b>				
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
GS1710	Web Programming	3	2	2
GS2310	Project Planning and Management	2	1	2
<b>Semester 2</b>				
GS2110	Customization of GIS Applications	3	2	2
GS2210	Database Design and Development	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
GS3410	Spatial Database Applications	3	2	3
<b>Semester 3 (Intersession)</b>				
GS3110	Advanced Topics in Geomatics	2	1	2
GS1610	Surveying and Mapping	3	2	3
GS3210	Major GIS Project	5	3	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.

## TOURISM & NATURAL RESOURCES

# 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. 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 contribute 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

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.

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### 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.

