



Geographic Information Systems

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Guidelines for sponsoring a GIS student practica

Introduction	2
Role of the Sponsor	2
Developing a GIS Practicum	3
Skills Timeline for GIS Students.....	4
Practicum Schedule	5
A. Gradual Mode	5
B. Block Mode	5
Calendar for the GIS Practicum	6
Planning and Preparation – Sept – December	6
The Placement Process.....	7
A. Initiated by Sponsor	7
B. Initiated Student	7
BCIT Faculty Project coordinator	8
Practica Posting Form.....	8

Introduction

The BCIT GIS department has been graduating students for 25+ years. Our students come from BC, but as well, across Canada and internationally. Our program is known to be very demanding, and creates students that can think through their spatial problems, manage their time, speak in public, and work together in group environments. The BCIT GIS program uses ESRI software, together with PCI, AutoCAD, and other closed source software, but also teaches the use of open source software such as MapServer, QGIS, OpenLayers and more. The students that have graduated have moved from entry level GIS technicians up to GIS managers. Municipalities, private companies, as well as the software providers, like ESRI, have all hired our graduates. We have a large cadre of graduates over the 25 years that work here in BC and also span the globe.

The BCIT GIS Practicum offers a valuable opportunity for sponsors to play a role in GIS technology education while benefiting from the student's knowledge and skills. There is *no cost* to the sponsor for GIS Practicums. Liability for students within B.C. will be covered under the Institutes 'Coverage for Students on Approved Industry Project Practicums'.

This document provides information on the process to develop a practicum, and advertise for applicants. It includes a schedule, student skill sets, and the required elements of a practicum. Note that a practicum is held at your office, with the student going to work at your office, using your materials and equipment.

Role of the Sponsor

As a sponsor, you should undertake a GIS practicum convinced of its merit and with a sincere intent to:

- Develop accurate, informative job descriptions, including the specific outcomes, expectations, skills and knowledge required for the practicum.
- Review resumes and select a short list, interview and choose candidates for the available positions.
- Provide the appropriate facilities to ensure the success of the practicum.
- Provide the appropriate hardware and licensed software to ensure the success of the practicum.
- Provide meaningful employment in the student's field of study whereby the student is engaged in productive work rather than merely observing.

- Establish clear work objectives with the student at the beginning of the work term.
- Provide orientation to properly acquaint the student to his/her new location, organization and duties.
- Provide a mentor and/or a supervisor for the student.
- Assume the same responsibilities as those associated with hiring any short-term contract employee.
- Provide leadership to the student by employees that have an interest and an understanding of the practicum concept and ensure that the student's performance on the job is appropriately supervised.
- Supply progressively more challenging tasks and responsibilities as students' progress through the more advanced stages of the practicum.
- Monitor and offer feedback on the student's progress throughout the work term.
- Identify and remedy, in consultation with the Faculty and student, and difficulties with the progress of the practicum.
- Facilitate an on-site visit and meeting between student, BCIT GIS Faculty and the organization to review the progress of the practicum (for sponsors within the Vancouver area).

Developing a GIS Practicum

Although the main purpose of the practicum is the further development of the students GIS technical skills, a successful GIS Practicum will contain elements of the following:

Technical Component

The practicum should extend the student's existing knowledge and skills sets by applying these to workplace projects and processes.

Project Management Component

The student should be exposed to issues in managing projects, meeting deadlines, and applying resources in an efficient manner. Ideally this would be done through the student's technical work, but may be acquired through observation and discussion of other activities.

Exposure to Business Activities

The student should obtain a sense of the organization and business activities of the company.

Acquisition of Employability Skills

The practicum should provide for the development of such skills as written and oral communication, independent problem solving, teamwork skills, etc.

Skills Timeline for GIS Students

In order to plan for a project, it is very helpful to know what skills and knowledge will be acquired from the course work. The table below shows a term-by-term summary of the material covered from September-April in the full time GIS program.

Time Frame	Material Covered
September-December	<ul style="list-style-type: none"> • Fundamentals of GIS (45 hours) • Remote Sensing Principles and hands-on training (45 hrs) • ArcGIS software principles and hands-on training (90 hrs) • CAD for GIS (AutoCAD - 45 hours) • Database design and SQL (45 hours) • Project Planning (45 hours) • Fundamentals of Mapping – Geomatics & GPS (45 hrs) • Programming skills using Java (45 hours) • Computer Systems Fundamentals, Web GIS (45 hours)
January - March	<ul style="list-style-type: none"> • Oracle Database (20 hours) • Advanced GIS Programming (40 hours) • Spatial Analysis with ArcGIS (40 hours) • ArcGIS Customization with python (40 hours) • Technical Issues in GIS (20 hours) • Mapping Standards and Photogrammetry (40 hours)
March - April	<ul style="list-style-type: none"> • Oracle and ArcSDE (20 hours) • GIS Management (40 hours)

Practicum Schedule

A practicum can be completed at your place of employment in one of two ways.

A. Gradual Mode

In this approach, the student will gradually increase the amount of time spent at the practicum, while carrying a full-time load of courses. This practicum will commence in **January** and end in **May**. A *sample* schedule is shown below (actual depends on Statutory holidays during the term).

10 weeks, 1 day / week = 10 days (Friday)

5 weeks, 2 days / week = 10 days (Thursday and Friday)

5 weeks, 5 days / week = 25 days (Monday – Friday)

Total 45 days. In general the student starts the Gradual Mode practicum on the **FIRST** Friday in January, and finishes the Friday following Victoria Day.

This approach provides some adjustment and orientation time for the sponsor and the student, and allows the student to complete all program requirements before June convocation.

B. Block Mode

In the block approach, the student completes a block of 9 consecutive weeks, mid **April-June**, in practicum activities.

9 weeks, 5 days / week = 45 days

This approach allows the student to complete all other course requirements before commencing the practicum. However, graduation will be delayed.

Remote practicums become feasible with this approach.

The schedule for practicum will be determined between the student, sponsor and Faculty.

Refer to the table 'Skills Timeline for GIS Students' below when plans the practicum.

Calendar for the GIS Practicum

Planning and Preparation – September – December

In November, all students are required to research and write a proposal describing their proposed work and turn in the proposal early December for their BCIT planning course.

The student is required to have an industry sponsored practicum by the end of October.

As the placement process may take some time it is desirable for 'Practicum Posting' to be received by the end of September at the latest, with the selection process to be completed by the end of October.

However, postings will be accepted until all students have a confirmed practicum or project. Earlier postings ensure a wider selection of students.

Ideal Schedule:

Mid – End September	Sponsor Submits Practicum Form
End September - Mid October	Student applies to practica of interest
Mid - End October	Interviews and Final Selection of Students by Sponsor
November	Sponsor provides a letter of offer (email) outlining the requirements to student and GIS department. Student Preparation for Practicum (research)
Early December	Student submits final Practicum proposal

The Placement Process

Sponsoring a GIS Practicum Student can be accomplished in two ways.

1. Initiated by Sponsor

- Sponsors can submit practicum job descriptions to the GIS Department; see contact information.
- The GIS Department will post the position.
- GIS students will apply to the sponsor for the practicum.
- The sponsor will interview and select the successful student. BCIT may be able to assist with interview rooms or setting up telephone interviews.
- Upon completion of the interview, sponsors are asked to advise the student and the GIS Department of their choice via email. Students should respond promptly to accept the offer of a practicum.
- Once a student has accepted, the sponsor will email a letter of offer outlining the requirements and time frame for the practicum.

2. Initiated by Student

Some GIS students may undertake to develop their own practicum opportunities and may approach your organization on their own initiative.

- If you are interested in providing a practicum in such a case, please develop a job description and discuss with the student.
- Once a description has been developed the student and sponsor should advise the BCIT GIS department.
- GIS Faculty will review and approve the practicum to ensure it meets the educational goals of the program.
- A email letter of offer outlining the requirements and time frame for the practicum is then provided to the student.

BCIT Faculty Project Coordinator

Contact:

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Practicum Posting Form

If you are interested in sponsoring a GIS Practicum Student at your company, please complete the form below, and return to the Project co-coordinator.

Please indicate Gradual or Block mode.



Geographic Information System (Practicum)

Sponsor Name			
Company Name			
Street Address			
City			
Province		Postal Code	
Telephone		FAX	
E-mail		Website	
Gradual Mode (Check appropriate box)		Block Mode (Check appropriate box)	

Company Description:

Practicum Description and Objectives:

Skills and Knowledge Required for the Practicum: