

## CAPSTONE RESEARCH PROJECT

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**INSTRUCTOR:** Mary Samolczyk, M.Sc.

**OFFICE HOURS:** T/W 12:00 –  
1:00pm

**OFFICE LOCATION:** A2806

**CLASSROOM:** T1090

**E-MAIL:** marysamolczyk@yukoncollege.yk.ca

**TIME:** F 10:30 – 12:00 pm  
(biweekly)

**TELEPHONE:** (867) 668 8898

**DATES:** Sept. 3 – Dec. 19, 2014

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### COURSE DESCRIPTION

The Capstone Research Project is the culminating project of the Geological Technology Diploma Program. It is intended to act as a mechanism for students to use their acquired skills to prepare and present a scoping study for a mining project. The project will target a mineral deposit, integrating publically available geological and geophysical data with proprietary information supplied by partner mining and exploration companies. Topics to be studied will vary depending on available data, but may include deposit geology and deposit model(s), 2D and 3D resource and geophysical modeling, resource and reserve estimates, mine planning and design, mineral processing, site layout, environmental considerations, and project cost estimates and economics. The Capstone Project extends over both semesters of the second year of the Geological Technology Diploma Program.

### PREREQUISITES

Successful completion of the Geological Technology Certificate Program OR permission from the instructor.

### EQUIVALENCY OR TRANSFERABILITY

Depending on content, NSCI 202 (Yukon College) may be substituted for GEOL 207. Equivalency is up to the discretion of the Geological Technology program coordinator. Transferability negotiations are in progress.

## **LEARNING OUTCOMES**

Upon successful completion of the course, students will have demonstrated the ability to

- delineate realistic research goals, a research work plan and a project timeline with deadlines that are met throughout the course of the project (fall and winter semesters). Students must demonstrate independent work habits, adhere to project due dates and consistently attend meetings/tutorials set by the project supervisor
- reduce and process raw geological and geophysical data and organize that data in database formats accessible to other users, and conduct a background literature review to support and inform data analysis
- provide a plan outlining proposed project consultations with First Nation communities and the general public
- use knowledge and skills acquired in Geological Technology Program coursework to employ relevant methodologies, software, and calculations to analyse data and produce meaningful results that meet mineral resource industry standards
- synthesize results to produce original ideas and conclusions that meet initial project goals and fulfil project requirements approved by the project supervisor
- present final results and recommendations in a formal written report and accompanying presentation (oral and visual components) that meet the project requirements. Communicate results clearly and engage in discussion of results with the project supervisor as well as public, First Nation and industry representatives.

## **DELIVERY METHODS**

An individual research project is a mandatory component of a geological technologist diploma program. The first semester of the course is focused on defining projects, creating research proposals, and preliminary data analysis. A biweekly, seminar-style class will help guide students on appropriate methods for data collection, reduction, and manipulation, as well as project design. In the second semester, students will continue original research on provided datasets, focusing on data analysis, synthesis, and presentation. Each student will be supervised by a Geological Technology faculty member, in addition to industry and/or academic partners as the project requires. Supervising faculty will be available to give input and suggestions during scheduled meetings throughout the semester and will enforce checkpoints to ensure rigorous and timely completion of the project. Due dates will be clearly communicated by the supervisor and penalties will be levied for any late work.

At the conclusion of the course, students will complete a well-written and technically accurate project report and deliver an oral presentation (with defence) on the results of their study. At the

discretion of the instructor, a scientific research poster may be required to accompany the final oral presentation.

## **COURSE REQUIREMENTS**

Students must be enrolled full-time in the Geological Technology Diploma Program.

## **ASSESSMENTS**

### **Participation**

Seminar attendance is mandatory. If students anticipate that they will miss a pre-scheduled seminar or meeting for a valid excuse they must notify their supervisor. Participation will account for 10% of the final grade.

### **Assignments**

Evaluation of five project milestones will occur at pre-determined due dates jointly set by the project supervisor and student. The weight of each milestone project will be assigned at the start of the course. A significant portion of the overall course grade will be assigned to the final presentation and defence due at the end of the winter semester.

## **EVALUATION**

<i>Items</i>	<i>Weight</i>	<i>Dates</i>
Project milestones (5)	50%	Regularly assigned over the course of the semester.
Final presentation (oral and visual components)	20%	Due at the end of the winter semester.
Final report	15%	Due at the end of the winter semester.
Oral defence*	5%	Scheduled during exam period in the winter semester.
Participation	10%	

\*The defence will be a closed oral exam conducted by program faculty and at minimum one external examiner. The exam will be based directly on individual project content.

## **REQUIRED TEXTBOOKS AND MATERIALS**

Students will need to refer to material in textbooks already purchased for their Geological Technology Certificate and Diploma courses.

## **PLAGIARISM**

Plagiarism is a serious academic offence. Plagiarism occurs when students present the words of someone else as their own. Plagiarism can be the deliberate use of a whole piece of another person's writing, but more frequently it occurs when students fail to acknowledge and document sources from which they have taken material. Whenever the words, research or ideas of others are directly quoted or paraphrased, they must be documented according to an accepted manuscript style (e.g., APA, CSE, MLA, etc.). Resubmitting a paper which has previously received credit is also considered plagiarism. Students who plagiarize material for assignments will receive a mark of zero (F) on the assignment and may fail the course. Plagiarism may also result in dismissal from a program of study or the College.

## **ACADEMIC ACCOMMODATION**

Reasonable accommodations are available for students requiring an academic accommodation to fully participate in this class. These accommodations are available for students with a documented disability, chronic condition or any other grounds specified in section 8.0 of the Yukon College Academic Regulations (available on the Yukon College website). It is the student's responsibility to seek these accommodations. If a student requires an academic accommodation, he/she should contact the Learning Assistance Centre (LAC) at (867) 668-8785 or [lassist@yukoncollege.yk.ca](mailto:lassist@yukoncollege.yk.ca).