

**APPLIED SCIENCE AND MANAGEMENT DIVISION
SCHOOL OF MINING AND TECHNOLOGY
SCHOOL OF SCIENCE**



COURSE OUTLINE

GEOL 113

INTERMEDIATE GEOLOGY FIELD SCHOOL

**90 HOURS
3 CREDITS**

PREPARED BY: Joel Cubley
Joel Cubley, Instructor

DATE: September 20, 2012

APPROVED BY: Shelagh Rowles
Shelagh Rowles, Dean

DATE: September 20, 2012

YUKON COLLEGE

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Course Outline prepared by Joel Cubley, 20 September 2012.

Yukon College
P.O. Box 2799
Whitehorse, YT
Y1A 5K4

APPLIED SCIENCE AND MANAGEMENT DIVISION
GEOLOGY 113
3 Credit Course

INTERMEDIATE GEOLOGY FIELD SCHOOL

INSTRUCTOR: Mary Samolczyk, M.Sc.
OFFICE HOURS: N/A
OFFICE LOCATION: A2320
TELEPHONE/E-MAIL: 668-8745 (W) / msamolczyk@yukoncollege.yk.ca

COURSE OFFERING
DAYS & TIMES: April 27, 2013 – May 11, 2013

COURSE DESCRIPTION

In this follow-up to the Introductory Field Camp (GEOL101), students will further refine their field geology skills in a camp setting outside of Whitehorse. A central focus for the field school will be the development of a number of skillsets fundamental to mineral exploration, including prospecting techniques, primary mapping at a variety of scales, geochemical sampling techniques, ground geophysics, and core logging. Students will synthesize existing datasets using database and GIS skills acquired earlier in the program, with the goal of creating a comprehensive geological overview of the field area. In addition, students will be exposed to the logistics of working and living in a camp setting and gain experience with standard field safety protocols. When possible, field trips to active exploration and mining operations will supplement the established curriculum. The Intermediate Geology Field School (GEOL101) is mandatory for all students in the Mineral Resources Certificate/Technologist program and prepares those students for job placements in the upcoming summer season.

LEARNING OUTCOMES

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

- Construct primary geology maps at a variety of scales, and record basic geologic relationships by plotting contact and structural data on produced maps.
- Identify the major geological features of field school project area(s) and demonstrate knowledge of primary geological principles through annotations in a written field notebook.
- Positively identify and sufficiently describe a variety of lithological types in a field setting, including ore mineralization related to a number of ore deposit models.
- Successfully plan, coordinate, and execute geochemical sampling programs tailored to the known geology of the field school area.
- Develop field safety plans for their working groups and execute those plans in simulated emergency situations at the field site.
- Conduct ground-based geophysical surveys and process resultant geophysical data, while understanding the implications of that data for mineral potential.
- Collect and describe samples of geologic materials in support of field investigations and for geochemical analysis.
- Describe the framework of First Nations communities surrounding the project areas, and demonstrate an understanding of how hypothetical mine development would impact those communities, both positively and negatively. Understand the need for consultation with First Nations on mining projects, and know how to arrange and facilitate the consultation process.

DELIVERY METHODS/FORMAT:

This two-week field camp will not be conducted on the Yukon College campus but at one or more off-site locations that better replicate the experience of working and living in a camp environment. Instruction will occur daily, with a rest day scheduled for the middle of the field school. Students will be expected to be in the field actively participating from 8-5 daily and to complete paper and homework commitments nightly. Students are required to take college transportation to and from the field areas, as use of personal vehicles is not permitted for liability reasons. Participants will likely be out of cell phone contact for the duration of the field camp. All deliverables will be completed prior to leaving the field site on the final day, and thus there will be no additional

requirements on returning to Yukon College.

PREREQUISITES

Successful completion of GEOL101 and GEOL105, or permission from the instructor.

COURSE REQUIREMENTS/EVALUATION

Attendance and Participation

Students are required to attend the field camp in its entirety. If extenuating circumstances arise, a course of action will be decided upon by the instructor and the Head of the School of Trades, Technology, and Mining. The instructor **MUST** be informed prior to absence. Field exercises must be completed during class hours, with the instructor present. Participation accounts for 10% of the course grade, and grades will reflect the personal judgment of the field school instructor(s).

Students are required to come to field camp each day alert, engaged, and open to actively participating in activities. In addition, students must be prepared for inclement weather. In the case of severe weather (e.g. lightning), appropriate safety precautions will be taken, and if the weather continues, students will return to camp or the program vehicle until the situation improves.

Assignments

Students will be required to keep regular field notes throughout the field course, and these notes will be critically examined and commented upon at regular intervals. The quality of note-taking is expected to improve over the duration of the course.

The course focuses on the successful completion of individual modules that relate to specific exploration skill sets (e.g. magnetic survey, soil sampling, digital mapmaking, etc.). These individual modules will typically last 1-3 days, and students will be required to present a preliminary deliverable at the conclusion of each module. These preliminary products will be critically assessed by the instructor(s) and returned to students in a timely manner.

The capstone field school project involves synthesizing data observations from the individual modules, as well as any available historical data, and producing a number of “final deliverables.” These are to include computer-drafted geological maps, geophysical survey results, and a group presentation summarizing collective findings.

Each student will be required to complete an individual 15-20 minute oral exam administered by the instructor and/or teaching assistant. This exam tests students on their knowledge of concepts presented within the course -- no outside material will be incorporated. Oral exams serve to separate the skills of the individual from those of the group as a whole.

Evaluation

<i>Tests and Assignments</i>	<i>Weight</i>	<i>Dates</i>
Participation	10%	Participation will be assessed holistically for the entire camp period.
Final Capstone Presentation	20%	Presentation will be scheduled for the final day of field school. This mark will be divided between an overall group grade (10%) and an individual performance mark (10%).
Oral Examination	20%	Oral examinations will be scheduled for the final day of the field camp.
Individual Module Assignments	20%	Individual module assignments will be due the morning following the conclusion of each module in the field.
Field Notebooks	10%	Field notebooks will be assessed throughout the field school, but marks will be primarily derived from the final “versions” during the last stages of fieldwork.
Final Map and Survey Products	20%	Final mapping products and geophysical/geochemical survey data will be due on the morning of the final day of field school.
Total	100%	

The letter-grading scheme used in this course is the Yukon College standard scheme. Final grades will be rounded up to the nearest decimal place and assigned a letter grade based on this scheme. Grades will not be raised in order to facilitate a better overall grade standing at the end of the course. Final grades will be changed in the event that an error in grade addition or entry occurs. In such a case, students are asked to contact the instructor immediately. The College policy on grading and related matters is described in the “Student Evaluation, Grades, and Records” section of the current College Calendar.

Plagiarism

Plagiarism involves representing the words of someone else as your own, without citing the source from which the material is taken. If the words of others are directly quoted or paraphrased, they must be documented according to recommended document style. The resubmission of a paper for which you have previously received credit is considered a form of plagiarism.

Plagiarism is academic dishonesty, a serious academic offence, and will result in you receiving a mark of zero (F) on the assignment or the course. In certain cases, it can also result in dismissal from the College.

Equipment

An equipment list will be sent to students well in advance of the start of the course. The College is not responsible for basic field gear (e.g. hiking boots, rain coat, etc.) In addition, basic “personal” geology items (rock hammer, hand lens, etc.) will not be provided, and the equipment list will include suggestions for economical purchase of those items. More specialized geology equipment (compasses, levels, soil shovels, etc.) will be provided by the program, as will personal protective equipment (PPE).

STUDENTS WITH DISABILITIES OR CHRONIC CONDITIONS

Reasonable accommodations are available for students with a documented disability or chronic condition. It is the student’s responsibility to seek these accommodations. If a student has a disability or chronic condition and may need accommodation to fully participate in this class, he/she should contact the Learning Assistance Centre (LAC) at (867) 668-8785 or lassist@yukoncollege.yk.ca.

REQUIRED TEXTBOOKS/MATERIALS

No textbook purchase is required for this class. All needed materials will be provided by the course instructor. Textbooks from previous Mineral Resources Program classes will aid in project completion, and students are recommended to bring those materials to field school.

EQUIVALENCY/TRANSFERABILITY

There are no established course transfer agreements for GEOL 113. For more information about transferability contact the School of Science office