

## Geology 9702B

### Best Practices in Sustainable Mineral Resource Development in Ontario

Format: 5 modules plus a mini-conference

Dates: 6 days between January 31<sup>st</sup> and April 15<sup>th</sup>, 2015

Hours: From 9:30-12:30 and 1:00-4:00 each day

Location: to be determined

Enrolment: capped at 25 students and 10 professionals

Text: There is no text but the instructor will distribute course notes

Professor: Dr. David Good, dgood3@UWO.ca

W.S. Fyfe Chair

Dept. of Earth Sciences – University of Western Ontario

### Prerequisites

This program is available to registered Graduate students from Faculties of Business, Law, Geography, Biology and Earth Science, and to professionals in the field of resource development that have an undergraduate degree.

This is a 36 hour course, delivered in a modular format on 5 Saturdays and 1 Thursday. Professionals are invited to attend the full course or individual modules, as they bring a broad range of experience that will enhance classroom discussions. The core objective of this course is to introduce or up skill students in the practical and multi-disciplinary nature of many aspects related to mineral resource exploration and development. The scope of the course will include 5 modules that focus on the integration of geology, business, law and the environment in relation to industry-based practices for the mining cycle including permitting, exploration and deposit assessment, environmental studies and post mining management of waste rock and mine tailings. The course will include multimedia presentations, concept building, best practices, case studies and practical exercises. Concepts of best practices will be discussed throughout the course. Students are encouraged to bring lap top computers for in class exercises.

### Syllabus

Note that some of the material might vary depending on availability of guest speakers.

#### Saturday Jan 31: Module 1- Exploration level I:

1. Introduction to the course
2. Importance of Safety in exploration and mining
3. Interaction with Government agencies (MNR and MNDM) in relation to historical data, claim staking and land management
4. Data representation (2d and 3d) and Global Positioning System
5. The Assay - Analytical techniques and data management
6. Geophysical and geochemical surveys
7. Trenching and diamond drilling

Saturday Feb 7<sup>th</sup>: Module 2- First Nations Engagement:

1. The process of engagement: terminology, initiation, facilitation, agreements, examples of successes and failures.

Saturday Feb 14<sup>th</sup>: Module 3: Exploration Level II

1. The 43-101 standard and the Professional Geoscientist designation
2. Resource estimation
3. Reality of raising capital from a junior mining company's perspective

Saturday February 28<sup>th</sup>: Module 4: Mining and the Environment

1. Inter-relationships between geology, mineral resource, bedrock, topography, ground water and waste rock
2. Introduction to waste rock and tailings management

Thursday March 5<sup>th</sup>: Module 5: Environmental Assessment Studies

1. Environmental Assessment and the permitting process from exploration to mining
2. Practical side of working with government agencies regarding property access and permits for exploration and resource development
3. Biological inventory field studies and mitigation strategies

Date in April to be determined: Mini Conference:

1. Student presentations in an informal setting similar to a mini-conference

**Method of Evaluation**

- Evaluation will be based on class participation and a final presentation.
  - The final presentation will enable students to build skills necessary to make a concise and inter-disciplinary presentation on any topic covered during the course.
- 1) Class participation, 20%
  - 2) Proposal for presentation (due March 8<sup>th</sup>), 20%
  - 3) Visual presentation (1 poster board display), 20%
  - 4) Verbal presentation (10-20 minutes, including questions), 20%
  - 5) Final written report (based on proposal and presentation), 20%

Students must complete the presentation independently and answers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All presentations submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>)."

Non-medical absences are not permitted unless determined to valid by the Dean's office. For medical-related absences the prospective students should consult the Policy on Accommodation for Medical Illness (<https://studentservices.uwo.ca/secure/index.cfm>). Documentation related to either medical or non-medical academic accommodation, must be submitted by the student directly to the appropriate Faculty Dean's office and not to the instructor. It will be the Dean's office that will determine if accommodation is warranted. In cases where absences are justified

and accepted by the Dean's office, the instructor will work together with the student to best address the situation. However, only a maximum of one day's absence can be accommodated, given the modular format of the course.

### **Additional Statements**

#### ***Statement of Use of Electronic Devices***

For the in-class tests students may use their computers and calculators during exams and tests but computers must be on airplane mode. Use of cell phone is forbidden.

#### ***Statement of Academic Offences***

Scholastic offences are taken seriously and students are directed to read the appropriate policy; specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: [http://www.uwo.ca/univsec/pdf/academic\\_policies/appeals/scholastic\\_discipline\\_undergrad.pdf](http://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf).

#### ***Support Services***

Students should visit Registrarial Services (<http://www.registrar.uwo.ca>) and USC Student Support Services (<http://westernusc.ca/services/>) for their support services. In addition, students who are in emotional/mental distress should refer to Mental Health@Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.

#### ***Accessibility Statement***

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x82147 for any specific question regarding an accommodation.