



**ROBERT M. BUCHAN DEPARTMENT OF MINING  
Term Adjunct Position  
Academic Year Winter 2025**

**Posting Date:** Monday, October 8, 2024

**Closing Date:** 12noon, Thursday, November 28, 2024

The Robert M. Buchan Department of Mining Engineering, Smith Engineering at Queen's University invites applications from suitably qualified candidates interested in teaching the following course for the winter 2025 session.

**MINE 341 – Open Pit Mining / MNTC 413 Surface Mine Design  
January 1 to April 30, 2025**

**Qualifications**

Minimum of BAsC in Mining Engineering or related field and must hold a professional engineering registration in Canada. Previous teaching experience at the University level considered an asset. Previous educational background and/or experience must be suited to teaching the course described below. Candidates must have excellent communication and presentation skills, as well as being capable of working as a member of a teaching team.

**MINE 341 – Open Pit Mining**

**Course Description**

This course presents technologies and techniques employed in open pit mining with a focus on strategic and operations planning considerations. Topics of study include: pit design, application of algorithms for economic pit limit analysis, equipment selection, production scheduling, material control and reconciliation, remote sensing and geomatics applications, mine waste management, emerging trends in open pit mining, and mine safety. Regulatory controls and best practices in design are stressed for all stages of the mine life cycle. Environmental impacts of design decisions and mitigating strategies are explored. The use of software at various stages of the design and planning process is introduced and a strategic design project completed using commercial software applications.

**Course Learning Outcomes:**

1. Recognize the constraints involved in the design and operation of an open pit.



2. Understand the categories of resources for mine planning purposes, and determine mine life and production rates.
3. Perform a detailed pit limit analysis and sensitivities with different techniques, including the calculation of appropriate cut-offs.
4. Perform sequencing, scheduling and design to comply with operation and production constraints.
5. Determine categories of reserves in accordance to regulations.
6. Select suitable mining equipment and determine fleet requirements to achieve the production schedules.
7. Determine productivity of different unit operations.
8. Understand waste management approaches and recognize safety, environmental and social risks.
9. Complete and submit appropriate engineering documents. These documents are to be completed at a “professional” level.

### **Course Details**

Format: 3 lecture hours, 0 lab hours, 1.5 hours tutorials per week for twelve weeks. (Lec: 3, Lab: 0, Tut: 1.5)

Audience: undergraduate level students

Location: in person

Lab Supervision - Yes

Expected Enrolment (subject to change): 50 students

Percentage of Responsibility: 100%

The above course is in person at the Kingston, Ontario campus. Lectures and exams will be conducted in person. The contract will run from January 1, 2025 to April 30, 2025. The winter session runs from January 6 to April 4, 2025 with exams running from April 6 to April 23, 2025.

### **MNTC 413 – Surface Mine Design**

#### **Course Description**

This course presents a comprehensive overview of the principal components of surface mine design. Topics include pit limit analysis and economic optimization, haul road design, blast design, and basic stability calculations. Equipment selection and application and mine scheduling techniques will be introduced, including dragline applications. The focus will be on the practical application of design techniques to mine planning, and on the available equipment and methods for field monitoring to provide effective design feedback and support safe operations.



### **Course Details**

Format: lectures, labs, and tutorial hours per week for twelve weeks. (Lec: Yes, Lab: No, Tut: No)

Audience: graduate level students

Location: online

Lab Supervision – No

Expected Enrolment (subject to change): 15 students

Percentage of Responsibility: 100%

The above course is online. Lectures and exams will be conducted online. The contract will run from January 1, 2025 to April 30, 2025. The winter session runs from January 6 to April 4, 2025 with exams running from April 6 to April 23, 2025.

The University invites applications from all qualified individuals. Queen's is strongly committed to employment equity, diversity, and inclusion in the workplace and encourages applications from Black, racialized/visible minority and Indigenous people, women, persons with disabilities, and 2SLGBTQ+ persons.

The University will provide support in its recruitment processes to applicants with disabilities, including accommodation that takes into account an applicant's accessibility needs. If you require accommodation during the interview process, please contact [mine.office@queensu.ca](mailto:mine.office@queensu.ca).

Academic staff at Queen's University are governed by a collective agreement between [QUFA](#), and Queen's University.

### **Application Process**

To comply with Federal laws, the University is obliged to gather statistical information about how many applicants for each job vacancy are Canadian citizens/ permanent residents of Canada. Applicants need not identify their country of origin or citizenship, however, all applications must include one of the following statements: I am a Canadian citizen/permanent resident of Canada; OR, I am not a Canadian citizen/permanent resident of Canada. Applications that do not include this information will be deemed incomplete.

Applications should include a complete and current curriculum vitae, a statement of teaching experience, the names and contact details of two referees who may be contacted, and any other relevant materials the candidate wishes to submit for consideration.



**SMITH  
ENGINEERING**  
Queen's University

Robert M. Buchan  
Department of Mining

Applications can be submitted to the Adjunct Appointments Committee at the address below, or by e-mail to [mine.office@queensu.ca](mailto:mine.office@queensu.ca). Applications should arrive no later than **12noon on Thursday, November 28, 2024.**

Adjunct Appointments Committee  
c/o Heather Drouillard  
The Robert M. Buchan Department of Mining Goodwin Hall, Rm. 354  
Queen's University  
Kingston, Ontario K7L 3N6