

The Robert M. Buchan Department of Mining
MNTC Teaching Assistantships
Fall 2023 Term

All graduate students are invited to apply for MNTC Teaching Assistantships for the Fall 2023 term. Following the Collective Agreement, students who are studying in The Robert M. Buchan Department of Mining will be given preference over students from outside the department. It is recommended that you read the PSAC Local 901, Collective Agreement for Graduate Teaching Assistants found at:

<http://www.queensu.ca/facultyrelations/teaching-assistants-and-fellows/collective-agreement>

Please see the attached list of courses being taught this term that require TA support. For more information on each course, please see the Undergraduate Calendar at <http://calendar.engineering.queensu.ca/>

These positions are conditional upon enrollment figures and budgetary approval. Positions will remain posted until they have been filled (no less than 7 business days) from the date of posting and remuneration will be in accordance with the Collective Agreement.

TA assignments could include duties such as leading laboratories, tutoring, hosting virtual office hours, marking of assignments, reports, quizzes, exams. Due to changes in enrollments, some positions may have their hours adjusted once the semester begins. Any necessary training will be included in the assignment.

It is your responsibility to ensure you make yourself available to complete the TA work. If you are planning on being away from internet access for a significant amount of time during the semester, please indicate this when submitting your application and keep your employment supervisor up to date. Note that for Fall 2023, Final exams are scheduled until December 24 so it is possible that marking may be required right to the end of the month.

As TA-ships do not form part of the funding package for graduate students in The Robert M. Buchan Department of Mining, TA-ships will only be offered as per the criteria outlined in Second Preference – Group B or to candidates in Group C or D. In addition, we will do our best to match your preference to course offerings.

Second Preference – Group B: for qualified graduate students registered as:

- (i) students in a department or program in which the TA-ship will be offered; or
- (ii) students in an interdisciplinary program with TA budget resources, and for whom
- (iii) the TA-ship will not form part of the funding commitment offered by Queen's University; or
- (iv) there is currently no funding commitment provided by Queen's University.

Third Preference – Group C: for qualified graduate students that have previously held a TA-ship or TF-ship for the Employer.

Fourth Preference – Group D: for qualified graduate students that have not yet met the criteria as set out in A, B, or C.

Application Process:

Review the list of available TA positions for the Fall 2023 Term for current opportunities. Make note of your top 3 preferences.

Please complete the [application](#) form. Please note that you are required to upload your CV, cover letter, and transcript in the application form.

Applications will be reviewed at the end of the application period.

All Applications are due by August 13, 2023

Course Code	Title	Term	Instructor	Estimated Enrollment	# of TA ships and hours	Required Background/Skills	Description
MNTC 311	Ore Body Modelling and Resource Estimation	F	Julian Ortiz	TBD	1 TA (45hours)		This course presents a basic introduction to the use of classical and geostatistical estimation techniques for mineral resource estimation. Students will learn to recognize the geological influences to ore body modelling, apply various estimation methods, produce mineralization reports, and classify the mineral resources and reserves according to accepted internationally recognized methods. The course will also include basic ore exploration and sampling concepts. Available Online.
MNTC 408	Mine Health and Safety	F	TBD	TBD	1 TA (45 hours)		This course is designed to provide knowledge about industrial health and safety practices, in general, and to relate their applications to the mining industry, in particular. The course will identify fundamental industrial physical and chemical (nontoxicological) hazards and risks and review mitigation strategies. Foundational to the course is the analysis of how a typical mine builds a safety organization. The course will examine the processes and the people that comprise award winning safety programs at top performing mining organizations. Students will explore how to design, organize, implement, and maintain a world class safety program as adapted to the mining environment in today's market. How corporate behavior policies ensure adherence to safe work practices and how risk-based safety procedures will lead to performing a job safely will be discussed. The benefits and challenges of instituting and sustaining a goal zero type safety culture will be summarized. Available Online.
MNTC 415	<i>Metal Extraction Processes</i>	F	TBD	40	1 TA (45 hrs)	Undergraduate degree in Mineral processing or Chem Eng/Eng Chem. Basic understanding of thermodynamics as applied to metallic systems and knowledge of hydrometallurgical and pyrometallurgical processes.	This course covers the fundamental and practical applications of metal extraction processes. An introduction to the chemical production of metals will be provided. Basic processing concepts of hydrometallurgical, pyrometallurgical and electrometallurgical unit operations will be discussed. The properties of solutions relevant to metal extraction are reviewed. Fundamentals of mass and heat balances in metallurgical processes will be covered. Some metal production flowsheets are utilized to illustrate the integration of unit processes required for metal extraction. (0/9/0/18/9)