The Robert M. Buchan Department of Mining

Teaching Fellow Position

Academic Year 2022/2023

Posting Date: November 5, 2022

Closing Date: December 1, 2022

The Robert M. Buchan Department of Mining at Queen’s University invites applications from suitably qualified candidates interested in teaching the following undergraduate course in the 2023 Winter Term (January 9 - April 28, 2023).

Qualifications:
Minimum of M.Sc. and currently enrolled in a Ph.D. program in Mining Engineering or a related field, expertise in the field relevant to the course and appropriate teaching experience. 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 be capable of working as a member of a teaching team. Prior teaching experience in engineering and lecture-based engineering course would be a strong asset and/or experience teaching online.

Course Descriptions and Teaching Requirements:

MINE 339 (in conjunction with MNTC 316) – Mine Ventilation

Lecture: 3, Lab: 1.5, Tutorial: 0

Hydraulics of air flow through mine openings and ducts is first studied, leading to mine ventilation Hydraulics of air flow through mine openings and ducts is studied, leading to mine ventilation design calculations and ventilation network analysis. Topics related to the design of mine ventilation systems include: statutory regulations and engineering design criteria, ventilation circuit design, natural ventilation, testing, application and selection of mine ventilation fans, auxiliary ventilation design, psychrometry, mine air heating and cooling, dust and fume control, and ventilation economics. Health hazards of mine gases, dust and radiation are reviewed, together with statutory requirements for air quality. Procedures for conducting air quantity and quality surveys are also taught.

Academic Units:
Mathematics 0, Natural Sciences 14, Complementary Studies 0, Engineering Science 40, Engineering Design 0

MNTC 316 - Ventilation and Hydraulics Description

Lecture: 3, Lab: 0, Tutorial: 0
This course will provide an overview of fluid mechanics in order to provide a solid foundation for mine ventilation and mine hydraulics. Students will be able to perform ventilation surveys, analyze existing ventilation networks and design new ventilation networks in accordance with mine regulations and design criteria. New technology for saving energy and reducing emissions will be explored. Mine hydraulics topics such as mine service water distribution, mine drainage and dewatering and backfill distribution will be discussed. Students will be able to perform pipe network analyses and select the appropriate pumps for these applications. Available Online.

**Academic Units:**
Mathematics 0, Natural Sciences 0, Complementary Studies 0, Engineering Science 18, Engineering Design 18

**The above courses will be delivered in person and online. The successful applicant will have 100 percent responsibility for the course.**

**Definitions:**

Winter term classes begin on January 8 and end on April 10, 2023, with the winter term examination period running from April 14-28, 2023. More information on the Undergraduate Academic Plan can be found [here](#).

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/Aboriginal people, women, persons with disabilities, and 2S-LGBTQ+ persons. All qualified candidates are encouraged to apply; however, Canadians and permanent residents of Canada will be given priority.

Teaching Fellows at Queen’s University are governed by the Collective Agreement for Teaching Assistants and Teaching Fellows between PSAC Local 901 and Queen’s University. Remuneration will be per the Collective Agreement, and appointments are subject to funding or enrolment criteria. Compensation for teaching this course will be $8,650.

[https://www.queensu.ca/facultyrelations/psac%20901-1/collective-agreements/MoAs/LoUs](https://www.queensu.ca/facultyrelations/psac%20901-1/collective-agreements/MoAs/LoUs)

The University will provide support in its recruitment processes to applicants with disabilities, including accommodation that considers an applicant’s accessibility needs. If you require accommodation during the interview process, please get in touch with Jill Hodgson at hodgsonj@queensu.ca

To comply with Federal laws, the University must 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 current *curriculum vitae*, a copy of their transcript (unofficial is accepted), a statement of teaching experience, the names and contact details of two referees, and any other relevant materials the candidate wishes to include for consideration. Applications can be submitted to Jill Hodgson at hodgsonj@queensu.ca. Applications should arrive by December 1, 2022.

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