

# MINING ENGINEERING - DOCTOR OF PHILOSOPHY

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The minimum academic requirements are four term length courses (or three for students beginning in or after September 2022) beyond the M.A.Sc. degree, satisfactory participation in the graduate seminar MINE 897, successful completion of the comprehensive examination requirement, and completion of a research thesis (MINE 999). All courses must be taken at the graduate level. Normally, two courses will be taken within and one course will be taken outside the Mining Department. The department may make exceptions to this academic requirement if a different balance of mining and external courses is beneficial to the student and has the support of the supervisor. In certain cases, the number of courses required will be larger than the minimum. The selected academic program must be approved by the Department.

For students who received a Master's from this department and in the same area of study, the minimum course requirements shall be decided in consultation with the PhD Supervisory Committee and approved by the Department Head or Graduate Coordinator.

All students who are doing laboratory research on campus must take *CHEM 801 Safety in the Laboratory*, a non-credit course in laboratory safety, at the first opportunity after their initial registration. Students who have previously completed MINE 459 or MINE 851 as part of their regular undergraduate or graduate programs at Queen's University are exempt from this requirement. Students who are taking or have taken *MNTC 408 Departmental Safety Module* are also exempt from this requirement.

The comprehensive examination, an assessment of the student's understanding of the major areas of Mining Engineering, must be taken by all Ph.D. candidates and may, under special entrance requirements, be required to be taken in two parts.

Should an entering Ph.D. student's background in mining engineering or related disciplines be deemed to be insufficient, a designated program of study and/or completion of general knowledge examinations (first level comprehensive examination) will be required to be taken. The first level comprehensive examination will review the candidate's general background in Mining Engineering and must be held in the fall term of the second year of the Ph.D. program.

If a first level knowledge examination is not required, the Ph.D. student will be required to complete a comprehensive examination leading up to a final thesis defense that will cover the area of specialization and areas of the candidate's

background preparation. This examination should be taken at least 18 months after a student's initial registration in the Ph.D. program and no later than 12 months prior to the final thesis defense.