



Department/Academic Unit: The Robert M. Buchan Department of Mining
Degree Program: M. Eng.

Degree Level Expectations, Learning Outcomes, Indicators of Achievement and the Program Requirements that Support the Learning Outcomes

Expectations (general descriptors from OCAV)	Learning Outcomes (program specific)** This degree is awarded to students who demonstrate...	Indicators of Achievement As evidenced by...	Relevant Courses and academic requirements (requirements that contribute to the achievement of learning outcomes and degree expectations)
Depth and breadth of knowledge	A broad understanding and enhancement of knowledge of mining science in a variety of fields that are pertinent to the student's academic fields of interest. In these fields, students will acquire an awareness of current operational procedures, analytical techniques and constraints existing in their areas of professional practice	Achievement of satisfactory academic performance through classroom submissions and examination output, including dissemination of information using innovative problem solving techniques that can be creatively applied and effectively communicated to academic colleagues and supervisors alike.	Courses for this degree level are expected to have a general and broad-based focus on a wide range of mining engineering topics. In the current program listings, participants are recommended to take specific courses having general and cross-field academic content that are of interest to graduate student candidates, in all fields of study, such as MINE 800 (Advanced Mining Systems and Processes) and MINE 862 (Issues in Health, Safety and Environment).

<p>Research and scholarship</p>	<p>Conceptual understanding that:</p> <ul style="list-style-type: none"> -Provides a comprehensive overview of professional techniques, academic research and industry developments that combine to create general discipline knowledge; -Enables an evaluation of current scholarship in the broad range of fields of study that comprise mining engineering and; -Enables wide-ranging and up-to-date source information gathering, compilation and dissemination of written and/or oral information 	<p>Adequacy in meeting timeline commitments for course-based assignments in all forms, and provide evidence of competence in ability to plan and efficiently manage project or assignment submissions; Demonstration of the capacity to provide high levels of accomplishment for academic tasks and reporting through regular and effective communication with academic advisors</p>	<p>All graduate level courses offered by this Department, as well as 400-level senior undergraduate courses, are acceptable for M.Eng. program delivery. The current academic offerings provide comprehensive training in all principal fields of discipline-related engineering, including mining (surface and underground), mineral processing and mine-mechanical fields that are considered to be principal attributes for professional and academic development in mining engineering</p>
<p>Application of Knowledge</p>	<p>Competence in the academic process by subjecting an existing body of knowledge to critical analysis</p>	<p>Achievement of proficiency and efficiency in the planning and distribution of scientific knowledge for discipline specific assignments. Candidates must demonstrate the ability to adhere to strict time requirements in assigned tasks within courses, show evidence of contingency planning capability and</p>	<p>Academic offerings provided by the Mining Department provide strong overlap with related disciplines such as Geological, Civil, Mechanical and Chemical Engineering. The program encourages students in the M.Eng. program to participate in academic courses within other such units, and to both consolidate and effectively participate with other</p>

		Demonstrate regular and effective communication with faculty and peers	academic units as time and timetabling permit.
Professional capacity/autonomy	<p>Intellectual qualities and transferable skills necessary for enhanced employment training in the mining industry or related mineral industry fields, and which can assist in demonstrating:</p> <ul style="list-style-type: none"> -the exercise of initiative, leadership responsibility and effective communication skills -the ability to exercise effective decision-making -professional development progression -training in matters of ethical behaviour and academic integrity using guidelines and procedures also appropriate for responsible conduct of research; and -an appreciation of the broader implications of applying mining engineering knowledge to the scientific and social aspects of this discipline 	<ul style="list-style-type: none"> -Ability to meet all academic deadlines in timely and proactive fashion by being punctual in all aspects and demonstrating willingness to meet all deadlines set -Effectively seek additional meetings with academic and/or technical staff to develop organizational or task goals -Capability to provide reasoned analyses of societal and ecological factors, with risks mitigated where possible; strong focus and inclusion of discipline-related information in achieving project-related goals 	The combination of a wide variety of academic course offerings, access to highly skilled and trained professional engineering staff and capability of graduate programs to overlap between related disciplines offers considerable opportunity for students to excel in their academic pursuits
Communication Skills	The ability to communicate ideas, issues and conclusions clearly	Highly motivated preparation endeavour to be displayed as well as evidence	All academic courses promote development of strong communication skills

		<p>of effective skill at organizing assignment and course deliverables, including strong evidence of pre-planning activity</p> <ul style="list-style-type: none"> -Excellent oral delivery capability to be shown for in-class activities, (through seminar discussions or planned presentations); <p>effective use made of figures, graphs and illustrations to enhance written presentations</p>	<p>in oral and written/computer media</p>
<p>Awareness of limits of knowledge</p>	<p>Recognition of the complexity of knowledge and of the potential contributions of other interpretations, methods, and disciplines</p>	<ul style="list-style-type: none"> -Ability to make effective use of information gathered from others and make full and concise attributions to the contributions of others -Recognition of missing or unidentified information and apparent gaps in information databases -Capacity to seek assistance of others in the same field or to seek information sources beyond the current scope of discipline knowledge when and if required 	
<p>Add program specific degree expectation*</p>	<p>The learning outcomes of the M.Eng. program of study in Mining are similar to those of most other engineering</p>		<p>The course MINE 800 (Advanced Mining Systems and Processes) is recommended. This course</p>

	disciplines at Queen's University, and based largely on academic course instruction in a minimum inventory of courses as set by this Department (8).		provides students with non-mining backgrounds an opportunity, at the start of their programs in their first term, to study the broad-scale operational activities and requirements of the mining industry as it relates to engineering practice.
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