

SCHOOL OF ENGINEERING GRADUATE PROGRAMS

Focus on research at one of Canada's leading project-based engineering schools. Individualized attention and industry connections enable your success while you undertake your graduate studies featuring integrated and advanced project learning and interdisciplinary thinking in Civil, Electrical, and Mechanical Engineering disciplines.

Choose your path, and open the door to exploring cutting-edge research in world-class facilities on the Okanagan campus of the University of British Columbia.

Program	Components	Expected Duration
MASc	Coursework and thesis	18 to 24 months
MEng	Coursework	12-24 months
PhD	Dissertation	36-48 months

MASTERS OF APPLIED SCIENCE (MASc)

The MASc is increasingly viewed as an entry-level degree with many engineering consulting firms due to the specialized nature of many engineering projects. It is also a prerequisite to a PhD. Students select courses in consultation with their supervisor to suit research or career interests.

Students admitted to the MASc degree will normally possess a bachelor's degree in engineering or a related area, with a minimum GPA of B+ (76-79%).

Program duration: 18 - 24 months

Application requirements:

- Please touch base with a faculty supervisor before you start the application process.
- Statement of intent or purpose
- Online application and application fee
- Unofficial transcripts for all post-secondary institutions attended are required for the application package. However, if admitted, the student must submit official transcripts to the College of Graduate Studies
- English language test (for non-native speakers of English)
- CV or resumé
- Three reference forms or letters

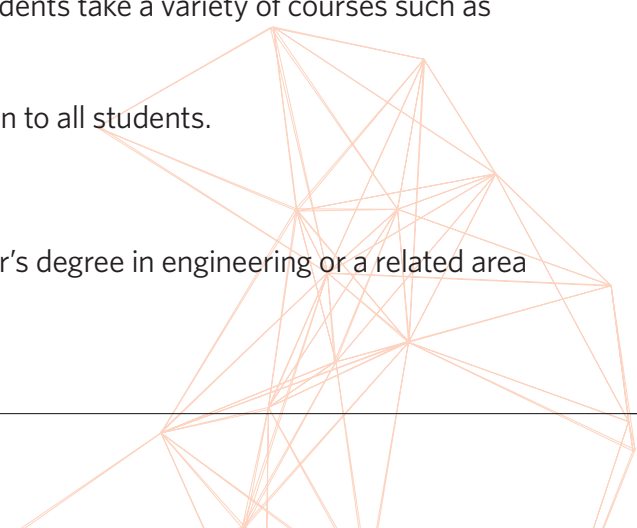
MASTERS OF ENGINEERING (MENG)

The course-based MEng program is designed for engineering graduates who want to advance their careers with further education. In addition to courses in specific technical areas, students take a variety of courses such as technical communications, ethics, and entrepreneurship.

Two streams are available for the MEng program. Both options are open to all students.

- 12 Months, courses only
- 16 - 24 Months with Internship

Students admitted to the MEng degree will normally possess a bachelor's degree in engineering or a related area with a minimum GPA of B+ (76-79%).



MEng Structure

		Civil	Mechanical	Electrical	
Year 1	Winter	ENGR 523 Seismic Design of Buildings - Term 1	ENGR 581 Mechatronics – Term 1	ENGR 512 Signals, Systems, and Inference – Term 1	
		ENGR 533 Construction Engineering and Management - Term 1	ENGR 586 Robot Modelling and Control – Term 1	ENGR 553 Signal Estimation Theory – Term 1	
		ENGR 518 Applied Machine Learning for Engineers – Term 1	ENGR 518 Applied Machine Learning for Engineers – Term 1	ENGR 518 Applied Machine Learning for Engineers – Term 1	
		ENGR 522 Advanced Design of Steel Structures - Term 2	ENGR 508 Specialty alloys – Term 2	ENGR 501 Deep and Reinforcement Learning for Engineers – Term 2	
		ENGR 529 Rehabilitation of Concrete Structures - Term 2	ENGR 513 Nanomaterials and Nano Manufacturing – Term 2	ENGR 509 Intelligent Wireless Robotics – Term 2	
		ENGR 532 Project Planning and Control - Term 2	ENGR 532 Project Planning and Control - Term 2	ENGR 532 Project Planning and Control - Term 2	
		16-24 Month Program with Internship		12 Months Program without Internship	
Year 1	Summer	ENGR 598 Engineering Communication & Prof Skills for MEng	ENGR 598 Engineering Communication & Prof Skills for MEng	ENGR 598 Engineering Communication & Prof Skills for MEng	
		MGMT 5xx* Enterprise and Innovation	MGMT 5xx* Enterprise and Innovation	MGMT 5xx* Enterprise and Innovation	
		Training workshops administered by the CO-Op Office: Succeeding in Interviews and the Canadian Work Place	ENGR 589 Multicriteria Optimization and Design of Experiments	ENGR 413 Law and Ethics for Engineers	
Year 2	Duration 4-12 Months	ENGR 597 Industrial or Research Internship			

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DOCTOR OF PHILOSOPHY (PHD)

The PhD program is designed for engineering graduates who want to magnify their knowledge and skills through rigorous research practices related to civil, mechanical or electrical engineering. The PhD program requires the completion of required coursework, a qualifying examination, the development and defence of a research thesis proposal, and the completion of a research thesis.

Admission to the PhD program requires the completion of a thesis-based master's degree in Engineering or a related field. Students are also required to meet the minimum standards specified for admission by the UBC

Application requirements:

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- Statement of intent or purpose
- Online application and application fee
- Unofficial transcripts for all post-secondary institutions attended are required for the application package. However, if admitted, the student must submit official transcripts to the College of Graduate Studies
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RESEARCH AREAS

Graduate students (MAsc and PhD) and postdoctoral fellows can pursue many research and teaching interests (please note that students wishing to undertake research in Manufacturing Engineering can register in Mechanical Engineering or Electrical Engineering):

CIVIL ENGINEERING - Applied Microbiology, Biological Treatment of Water and Waste Water, Drinking Water Treatment and Distribution, Construction Materials, Geohazards Assessment and Mitigation, Life Cycle Management in Construction, Solid Waste Management, Structural Design and Strengthening, Sustainable Transportation, and Sustainable Urban Development

ELECTRICAL ENGINEERING - Digital Systems, Electromagnetics, Materials, Microfabrication, Photonics, Power Electronics, Power Systems, Radio Frequency (RF) Systems, Sensors, and Wireless Communications

MANUFACTURING ENGINEERING - Additive Manufacturing, Advanced Materials, Adaptive Robotics, Artificial Intelligence, Autonomous Systems, Digitalization, Factory Planning, and Product Management

MECHANICAL ENGINEERING - Biomechanics, Biomedical Engineering, Computational Mechanics, Design and Optimization, Dynamics and Vibration, Mechatronics and Controls, MEMs/NEMs, and Thermofluidics

RESEARCH FACILITIES

The School of Engineering has world-class, state-of-the-art laboratory facilities:

- Advanced Control & Intelligent Systems Laboratory
- Advanced Materials for Energy Storage Lab
- Applied Laboratory for Advanced Materials & Structures Applied Micro & Nanosystem Facility
- Bioreactor Technology Group Laboratory
- Centre for Transportation & Land Use Research
- Chau Research Group
- Combustion Propulsion & Power Laboratory
- Communication Theory Lab
- Composites Research Network Okanagan Laboratory
- Computational Fluid Dynamics Laboratory
- Energy Systems & Power Electronics Laboratory
- Heart Valve Performance Laboratory
- Integrated Optics Laboratory, Intelligent Sensing
- Diagnostic & Prognostic Research Lab
- Laboratory for Solar Energy & Fuels
- Life Cycle Management Laboratory
- Micro-Electronics & Advanced Sensors Laboratory
- Nanomaterials & Polymer Nanocomposites Laboratory
- Natural Gas Fuel System Laboratory
- Okanagan Polymer Engineering Research & Applications Lab
- Okanagan Laboratory for Control Systems Research
- Research in the Advanced Thermo-Fluidic Laboratory
- RF & Microwave Technology Research Lab
- Sustainable Transport Safety Research Laboratory
- Tesfamariam Research group
- Thermal Management & Multi-Phase Flows Lab