Civil Engineering

Memorial University's civil engineering undergraduate program is broad, encompassing several distinct areas of specialization. The scope of civil engineering includes design, planning, managing and construction of highways, airports, harbours, dams, hydro developments, bridges, buildings, industrial plants, site remediation, pollution control and other environmental and water resources management projects.

Civil engineers work in all levels of government and for a wide variety of industries, from engineering consulting firms to construction companies. There are many areas of specialization; traditional areas include hydrotechnical, environmental, municipal, geotechnical, construction, structural and transportation engineering. Emerging sub-disciplines include composite materials, environmental risk assessment and management, offshore structural safety and maintenance, infrastructure engineering and real-time condition monitoring.

Environmental – consulting in water resource management, sustainability in design and safety risk and management;

Research and development – involved in laboratory and field testing, data collection, structural analysis and assisting with ongoing research projects;

Offshore oil and gas – designing, structural and stress analysis and environmental and safety issues;

Government – assisting in infrastructure and municipal plans, designs, inspection, project management and environmental matters;

Transportation and Infrastructure – planning, design, and analysis in infrastructure and transportation strategies considering environmental and safety requirements; and

Planning and Estimating – determining project costs, scheduling and planning , managing resources and interfacing with contractors and clients.

Co-operative Education Opportunities

Co-operative education experiences of students within the Department of Civil Engineering have included a wide range of industries and opportunities. Examples of what our students can provide to employers include:

Consulting – designing, technical consultation, project management and cost estimating;

Construction – supporting site engineers in construction administration, cost estimating and project management;

MEMORIAL UNIVERSITY

CO-OPERATIVE EDUCATION
Faculty of Engineering and Applied Science

Civil Engineering Program Organizational Chart

Term	Fall	Winter	Spring
Year 1	**Engineering One**		
	Engineering Statics Introduction to Programming Engineering Graphics and Design Mechanisms and Electric Circuits	Physics Chemistry Mathematics English Professional Development Seminars	Work Term 1* *If students complete engineering one requirements within first two terms.
Year 2	**Academic Term 3** Engineering Professionalism I Mathematics for Civil Engineering I Earth Sciences for Civil Engineering Surveying and Geomatics Materials for Construction Dynamics	**Work Term** Work Term 1 Work Term 2	**Academic Term 4** Mechanics of Solids I Probability and Statistics Mathematics for Civil Engineering II Applied Environmental Science and Engineering Geotechnical Engineering I
Year 3	**Work Term** Work Term 1 Work Term 2 Work Term 3	**Academic Term 5** Mechanics of Solids II Applied Mathematical Analysis Design of Concrete Structures Fluid Mechanics Geotechnical Engineering II	**Work Term** Work Term 2 Work Term 3 Work Term 4
Year 4	**Academic Term 6** Thermal Sciences Structural Analysis I Design of Concrete and Masonry Structures Hydraulics Construction Planning Equipment and Methods	**Work Term** Work Term 3 Work Term 4 Work Term 5 (Optional)	**Academic Term 7** Design of Steel Structures Hydrology and Water Resources Highway Engineering Two technical electives
Year 5	**Work Term** Work Term 4 Work Term 5 (Optional) Work Term 6 (Optional)	**Academic Term 8** Engineering Professionalism II Civil Engineering Project Contract Law and Labour Relations Three technical electives	

More information ...

Civil Engineering Departmental Office
709-864-2705
www.mun.ca/engineering/civil

Course specific information