WHERE ENGINEERING GOES BEYOND
WE ARE HERE TO SUPPORT YOU.
Office of the Associate Dean, Graduate Studies
WE ARE MEMORIAL!

Founded in 1925, Memorial University of Newfoundland is a multi-campus, multidisciplinary, public university and is recognized as one of the best universities in Canada. About 18,000 students and 5,000 faculty and staff from more than 90 different countries learn, teach, research, create and engage at our university.

Outstanding research and scholarship, extraordinary teaching and a focus on community service are Memorial University’s hallmarks. Many teaching and research activities reflect our mid-North Atlantic locations; these unique settings and our cultural heritage have led to the creation of highly regarded academic programs and specialized facilities.

Memorial University’s main campus is located in St. John's, Newfoundland and Labrador — a safe, friendly city with great historic charm, a vibrant cultural life and easy access to a wide range of outdoor activities.

WE ARE AT THE EDGE!

In the Faculty of Engineering and Applied Science, we pride ourselves on being a leader in engineering education and research and being well connected with industry and the engineering profession. The faculty provides the highest quality of education through teaching and research excellence, a dynamic educational environment and innovative programs.

Our programs, our people and our facilities make Memorial University an excellent choice for studying engineering. Located at the edge of the Atlantic Ocean, we have a unique strength in ocean and Arctic related studies and an integrated approach in harsh environments. If you are a creative, imaginative person who would like an education that will prepare you for an exciting career and for lifelong learning, the Faculty of Engineering and Applied Science at Memorial University has something to offer you.
MESSAGE FROM THE DEAN

Welcome to graduate studies in the Faculty of Engineering and Applied Science at Memorial University! Our faculty has a long, proud tradition and reputation of excellence in graduate programs. Our graduate students work on leading-edge research with some of the most advanced facilities and equipment in the country. They’re finding innovative solutions to global problems, and turning their discoveries into new technologies and products.

Memorial engineering is one of the premier and most distinguished engineering schools in Canada. Our faculty members are internationally renowned and award-winning professors in their respective fields of research. Their research programs provide exceptional training opportunities for graduate students.

The faculty is experiencing significant growth. A major new infrastructure project on campus – the Core Science Facility (CSF) (425,000 sq ft) – will enable a significant portion of this expansion with modern, world-class engineering facilities. The CSF will dramatically improve the functionality of Memorial’s campus for decades to come and foster interdisciplinary research collaboration between science and engineering.

Recently several new initiatives have been launched as part of the engineering expansion, including a new Memorial Centre for Entrepreneurship (MCE) in partnership with the Faculty of Business Administration; a new Canadian Network for Innovative Shipbuilding, Marine Research and Training (CISMART); Suncor Energy Offshore R&D Centre; and a new Centre for Risk, Integrity and Safety Engineering (C-RISE).

It’s a great time time for students to pursue engineering graduate studies at Memorial University. Our evolving technical world is changing rapidly and needs more engineers with advanced graduate degrees. Many of the research projects and coursework are multi-disciplinary collaborations with industry partners, providing students with practical experience. I welcome you to visit us and our website (mun.ca/engineering) for further information.

Greg F. Naterer, PhD, P.Eng.
Dean and Professor
MESSAGE FROM THE ASSOCIATE DEAN

Memorial’s Faculty of Engineering and Applied Science prides itself on the high calibre of its graduate students. Our students have won national and international awards in fields such as offshore oil and energy by winning first place in the Chancellor’s Graduate Award with the Fry Family Foundation Award, and placed second out of 39 international teams in the American Concrete Institute in the USA. Among other accomplishments, Memorial had the first Canadian graduate of the new Global Engineering Certificate.

New career-driven graduate courses have been added in master’s and PhD programs. Our superior students are excelling in innovation, knowledge building and technological developments. Areas such as subsea, ocean and marine technology, energy, sustainable infrastructure and information and communication technology are among some of these growing expertise fields.

The Office of the Associate Dean (Graduate Studies) serves the needs of both faculty and students from the initial inquiry, admission, graduation and then through career development. We help our students unleash their real potential, to be successful researchers and/or professionals, and to be global citizens.

We are always striving for more challenges and more learning for the future. We are establishing new international collaborations to facilitate world experiences for our graduate students and to provide them with valuable global career development.

Faisal Khan, PhD, P.Eng.
Associate Dean and Professor
CIVIL ENGINEERING

The rapid growing population and industry stipulate sustainable design or improvement work while being mindful about the impacts on the environment. Join us and explore solutions for these challenges.

Choose from these options:
- MASc. in Environmental Systems Engineering and Management
- M.Eng. or PhD in Civil Engineering, with a thesis in areas such as coastal; geotechnical; structural design and analysis; water resources; materials; hydraulics; hydrology and environmental engineering

“Studying at Memorial, you can meet students from all around the world. Memorial also encourages students to share their research and improve their presentation skills by providing financial assistance to attend student seminars and international conferences. While studying at Memorial, I gained not only scientific knowledge and education, but I was also able to participate in multicultural experiences.”

Heri Sulistiyono, M.Eng., 1999; PhD, 2013
Associate dean of civil engineering graduate study, University of Mataram
COMPUTER ENGINEERING

Computers, laptops, smart phones, apps, augmented reality games … have you wondered what else computers can do for us? What is the limit, or is there a limit? Advanced study in computer engineering will help you acquire the skills to transfer your imagination to reality.

Choose from these options:
- MASc. in Computer Engineering
- M.Eng. or PhD in Computer Engineering, with a thesis in areas such as digital and image processing; software design and verification; error control codes; real-time discrete event systems; multimedia communications; image and video coding; and digital systems
- Graduate Diploma in Communications Engineering

“...With essential course works, the supervisory committee members worked with me to identify research problems. The supervisor also worked closely with me, providing sufficient supports in study, research, life, as well as career development. Upon finishing the program, I have developed my research capacity and teaching skills, which will help me significantly in my future career.”

Fan Jiang, PhD in computer engineering, 2018
Post-doctoral fellow, Massachusetts Institute of Technology (MIT)
ELECTRICAL ENGINEERING

From power supply to electronic devices, from daily life to industrial operations, electrical engineers have changed every aspect of modern society. You can gain expertise in electricity, electro-magnetism and/or electronics and lead some changes too.

Choose from these options:
• MASc. in Energy Systems Engineering
• M.Eng. or PhD in Electrical Engineering, with a thesis in areas such as antennas; applied electromagnetics; broadband communications networks; industrial automation; robotics; electric machines; autonomous vehicles; power systems and electronics; wind and alternative energy; distributed power generation; intelligent control; controllers and sensors in harsh environments; and wireless communications

“I moved from Iran to Canada in 2012 to start my PhD program in electrical engineering. MUN’s graduate program prepared me for after-academia life by teaching me both technical and soft skills that are required to have a successful career in today’s industries.”

Amir Tahavorgar, PhD, 2017
Senior research engineer, Solace Power
MECHANICAL ENGINEERING

There are no limits when it comes to mechanical engineering work. Become a mechanical engineer who puts things together, whether it is material; environmental; control; design; and/or engineering analysis.

Choose from these options:
- MASc. in Energy Systems Engineering
- M.Eng. or PhD in Mechanical Engineering, with a thesis in areas such as controls; corrosion; fatigue and fracture mechanics; fluid dynamics; heat transfer; materials; mechanical design; mechatronics; product development; resource utilization; robotics; structural dynamics and vision systems

“I was drawn to Memorial University for the opportunity of conducting experiments at the world-famous labs in the Faculty of Engineering and Applied Science. Working with some of the world’s experts in the field of ice engineering was a fantastic learning experience that provided me with valuable skills for my future career.”

Marjan Taghi Boroojerdi
PhD student, Memorial University
OCEAN AND NAVAL ARCHITECTURAL ENGINEERING

Offshore and marine developments in recent years and Canada’s national shipbuilding strategy indicate a growing demand in expertise in ocean engineering and naval architecture. Our graduate program is internationally recognized as one of the best in the world and the only one in Canada, and prepares students to address challenges and find innovative solutions for the marine industry.

Choose from these options:
• M.Eng. or PhD in Ocean and Naval Architectural Engineering, with a thesis in areas such as marine hydrodynamics, marine structures, underwater vehicles, Arctic engineering, marine safety and marine simulation.

Doug Smith, B.Eng., 2011; M.Eng., 2014, PhD, 2019
Assistant Professor

“I completed a master’s degree and a PhD degree under the ONAE graduate program at Memorial. This program offered opportunity to pursue a variety of research topics from all areas related to ONAE, with access to the relevant research tools and expertise. The mentorship provided in the ONAE graduate program is second to none and has been instrumental in shaping my education, research and professional development.”
The oil and gas industry is a key source of energy. Given the challenging economic environment, the oil and gas industry relies more on new knowledge, technology and engineering analysis for the growth in production and reserves.

Choose from these options:

- MASc. in Oil and Gas Engineering
- M.Eng. or PhD in Oil and Gas Engineering, with a thesis in areas such as downstream oil and gas processing; environmental protection; risk; reliability and safety engineering; drilling engineering; pipeline engineering; sub-sea geotechnical engineering; reservoir simulation and modelling; green and clean engineering; design of offshore production facilities; compact design of production facilities; as well as structural design of offshore structures

“\textit{I had the pleasure of completing my graduate studies at Memorial University. I am very thankful to Memorial for providing me with the necessary technical and soft skills for the start of my journey from being a student to becoming a professional.}”
PROCESS ENGINEERING

Converting raw materials into value-added products is easy; however, being mindful regarding sustainability, efficiency and safety is how process engineering makes a difference. The development of new technology is an unbeaten trend in process engineering.

Choose from these options:
M.Eng. or PhD in Process Engineering, with a thesis in areas such as design/development of processes to convert waste to bio-fuels and bio-products; safety and risk engineering; biochemical conversion processes; sustainability engineering; waste to energy; sustainable mining and mineral processing; and process modelling and control of the processing plants.

“The process engineering graduate program allows me to conduct independent research in an interdisciplinary and international environment. Additionally, I enjoy the many opportunities to grow project management and leadership skills through the program and extracurricular activities.”

Anke Krutof
PhD, 2019
SAFETY AND RISK ENGINEERING

Foresee what hazard may happen and prevent it from happening. To control risk by reducing or completely eliminating it through design and development work reflects the transition of engineering work from a focus on compliance to risk prevention.

- MASc. in Safety and Risk Engineering
“I went into engineering with the dream of using math and physics to solve cutting-edge and innovative problems. After completing my undergraduate degree, I realized that some of the most exciting innovation is occurring right here at Memorial. My graduate experience has exposed me to complex problems and challenged me in ways I never thought possible. I am excited to be working at the leading edge of engineering innovation.”

PROGRAM DURATION AND DEGREE REQUIREMENTS

MASc. and graduate diploma programs are course-based and provide a wide range of courses that equip students with the knowledge, skills and technology demanded by industry.

M.Eng. and PhD programs are thesis-based and lead to profound in-depth research in a particular area that fosters the evolution of engineering design and development.

**MASc.**
- One to two years
- 10-12 courses and a project course

**M.Eng.**
- Two years
- Four courses, a seminar course and a thesis

**PhD**
- Four years
- Two courses and a thesis

**Graduate Diploma**
- One year
- Five courses
FELLOWSHIPS, SCHOLARSHIPS AND AWARDS

Fellowships and scholarships are available to M.Eng. and PhD students. A few in-program scholarships are available to MASc. students. Students applying to engineering graduate programs will be automatically considered for fellowships and scholarships.

Rajib Dey, PhD, 2015

“Memorial does an excellent job of collaborating and partnering with communities, industry and all levels of government, which makes the quality of the programs and research that much better.”

ADMISSION REQUIREMENTS

• Second-class bachelor’s degree in engineering or a relevant area from a recognized university.
• Successful completion of a baccalaureate degree from a recognized university where English is the language of instruction, a minimum TOEFL ibt Score of 80 or overall score of 6.5 on IELTS, or other demonstrations of English proficiency as described in the Memorial University Calendar (www.mun.ca/regoff/calendar).

Application deadline for fall admission:
• Dec. 1 of the previous year for M.Eng. and PhD programs
• April 1 for MASc. and Graduate Diploma programs
APPLY TODAY!

mun.ca/become/graduate/apply

QUESTIONS OR CONCERNS?
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