ENGINEERING

#BEYONDIDEAS
SHAPE THE FUTURE

Challenge ideas, think of new solutions, collaborate, innovate and learn to create. You might just change the world.

Waterloo combines North America’s best engineering and architecture programs with hands-on learning that takes students beyond the classroom.

Gain work experience in the world’s largest co-op program. Develop your skills first-hand in state-of-the-art facilities using real-world processes and technology. Learn from the latest startups in the heart of Canada’s most entrepreneurial region. By graduation, you’ll be creating technologies of the future.

#BEYONDIDEAS

Engineering is about design, whether that is creating something new or improving upon the old. For Mariko, she discovered that the best way to learn this was through Waterloo’s unique combination of in-class theory, coupled with real-world application in labs, design teams and co-op. She believes there is truly no better way to study engineering.
Waterloo Engineering is a global leader in engineering education and research, attracting some of the brightest minds in the world. With a strong foundation built on innovation and co-op education, we produce students that are sought after by world renowned companies, led by professors involved in cutting-edge research that is changing the way we live.

YOUR FIRST YEAR

DIRECT ENTRY

Unlike most universities, you’ll choose your program when you apply. Direct entry lets you tailor your studies right away, giving you a head start to build valuable skills within your field. In first-year courses, you’ll expand your knowledge in math and science and dive into the elements specific to the type of engineer you want to become.

COHORTS

We’re Canada’s largest Faculty of Engineering, but our class sizes — or cohorts — never exceed 150 students. From your first day of class, you’ll share all required courses with your cohort, building unbeatable friendships. They may even lead to future business ventures.

BROADEN YOUR STUDIES

GET ADVICE FROM EXPERIENCED PROS

The First-Year Engineering Office is your all-access pass to academic and personal support, from study schedules to personal counselling services.

#1 Engineering school in Canada (US News & World Report 2016)

RESEARCH OPPORTUNITIES

Are you driven by unanswered questions and passionate about new discoveries? Go deeper in your studies and pursue research with some of our leading experts. With both full-time (Undergrad Student Research Award to be conducted on a co-op term) and part-time (Undergrad Research Assistantship to be conducted on an academic term) opportunities, you can even be paid for your work.

INTERNATIONAL OPPORTUNITIES

Take part in Canada’s largest engineering exchange program. Expand your horizons and learn from other cultures by taking advantage of 81 exchange opportunities in 30 countries.

waterloo.ca/engineering/international

GRADUATE STUDIES: YOUR PROFESSIONAL EDGE

At Waterloo, you can tap into the world of graduate studies and speed up your academic career with an Accelerated Master’s program. You’ll take graduate-level courses and gain research experience before finishing your bachelor’s degree! Plus, you could shorten the time spent on a Master’s degree by up to a year. Your dedication will impress employers and give you a greater depth of knowledge within a specialized field.

YES, WE HAVE AN ENTREPRENEURIAL CULTURE

Wealth Engineering students and alumni are known for confidently launching world-class ventures. If you are interested, we can help you achieve your aspirations through our values, policies, entrepreneurship programs, curriculum and funding opportunities — all of which equip you for success.

THE ENTREPRENEURSHIP OPTION

Gain fundamental knowledge in intellectual property, marketing and financing while pursuing your Engineering degree. Offered through the Conrad Business, Entrepreneurship and Technology Centre, the Entrepreneurship Option provides an E Co-op or Capstone design experience.

uwaterloo.ca/engineering/entrepreneurship

YOUR WORK, YOUR PROPERTY

100% of the ideas developed at Waterloo are owned by their creators.
CO-OP: EARN AS YOU LEARN

100% of Waterloo Engineering and Architecture students are in co-op.

$17,800 AVERAGE EARNINGS per term over 6 co-op terms to help pay for tuition, books, housing, or anything else you need

98% co-op employment rate in 2016

Benefit from the largest co-op program on the planet, with connections to MORE THAN 6,700 EMPLOYERS

LEARN TO NAVIGATE THE JOB MARKET BEFORE YOU ENTER IT

Gain important career contacts and experiences, and move seamlessly into your career.

CO-OP FOR ENTREPRENEURS

ENTERPRISE CO-OP (E CO-OP)

E Co-op, exclusively offered at Waterloo Conrad Entrepreneurship and Technology Centre, lets entrepreneurial students use a work term to start their own business. Gain full access to the University’s entrepreneurial ecosystem — including mentors, awards, and networking opportunities — while earning a co-op credit.

BRIDGING ENTREPRENEURS TO STUDENTS (BETS)

This specialized co-op program, also offered through the Conrad Business, Entrepreneurship and Technology Centre, brings together first year co-op students and early stage start-ups through 5-week micro placements.

Multiple micro placements, coupled with workshops and seminars offered by the Conrad Centre, help students develop valuable, transferrable employment skills over a total 16-week co-op placement.

GETTING YOUR FIRST JOB

Presenting your knowledge and skills to an employer is an art. That’s why we created the Co-op Fundamentals course. Before you jump into the hiring process, you’ll receive guidance on résumés, interviews, and our WaterlooWorks employment system.

CO-OP FOR ENTREPRENEURS

HOW CO-OP WORKS

Alternate between school and work terms, supplementing academic study with high-quality, paid work. Your co-op schedule depends on your program. Here are the two most popular Engineering streams, or co-op sequences.

<table>
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</table>

To see detailed co-op sequences visit uwwaterloo.ca/future/programs

WHAT STREAM IS MY PROGRAM?

STRENGTHS

- Biomedical
- Chemical
- Civil
- Computer
- Electrical
- Environmental
- Geological
- Management
- Mechanical
- Mechanical
- Nanotechnology
- Software
- Systems Design

IMMEDIATE OPPORTUNITIES AFTER GRADUATION

Two of my past co-op employers have already reached out to me for full time employment and I have two years of work experience on my résumé already. Not many fresh grads can say that.

INVALUABLE, WORLDWIDE WORK EXPERIENCE

I got the chance to visit Shanghai twice during a single co-op term and see a part of the world I didn’t think I would, especially during my undergrad.

#BEYONDIDEAS

Our students go beyond borders. On her recent co-op term, Lisa had the opportunity to work with a major tech company in Silicon Valley doing design for one of their most profitable products. During her time there, she also traveled to China to help troubleshoot the mass production of the product prior to its global release.

Lisa Mechatronics Third-Year Student

#BEYONDIDEAS

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WHERE YOU'LL LEARN

Build your ideas

You'll be “engineering” from the very start of your education at Waterloo. The one-of-a-kind Engineering Ideas Clinic will give you hands-on experience through group activities. You'll reverse-engineer engines, construct a brushless DC motor from scratch and develop biomaterials. Your ideas matter! The Ideas Clinic will be the space to express them, and progressively build more challenging devices and products throughout your education — these activities will help you understand the essentials of engineering in a very new way, while giving you the opportunity to bring your visions to life.

A CULTURE OF INNOVATION

A SPACE TO CALL YOUR OWN

The Engineering 7 (E7) building will be a seven-storey, 230,000 sq. ft. facility dedicated to innovation. E7 will house our expanded Mechatronics Engineering program and Biomedical Engineering program. This building, and all that is in it, will ensure our educational leadership continues to prepare students to tackle difficult problems facing the real world.

SEORA STUDENT DESIGN CENTRE

The Sedra Student Design Centre is dedicated to our student design teams and their projects. It's 20,000 square feet of enhanced experiential education space under one roof. Join a student team as early as your first week, or wait until you decide which award-winning team interests you the most. The choices are plentiful and each offer unique opportunities.

The student-led teams span every aspect of engineering and encourage cross-discipline participation. You'll get a real-world team experience that not only furthers your education, but also becomes a highlight of your Waterloo experience.

You will have engineering resources and tools readily available including: dedicated garages, sanding bay, paint room, CAD workstations, electronics assembly and test spaces, 3D print machines, meeting rooms, and the Engineering machine shop.

The new Engineering Ideas Clinic (left), is located in Engineering 7, now under construction, and will be ready for your use in September 2018.
GET IN ON THE ACTION

Believe us, you’ll do more than study!

Waterloo Engineering has a vibrant community of students who love to work hard and play harder. Sing with an a capella group, join a varsity team, become a leader — whatever your interests, you’ll be in good company.

CANADA’S MOST ACTIVE STUDENT SOCIETY
The Waterloo Engineering Society (EngSoc) represents your best interests, and offers endless ways to get involved. In your first week of classes, you’ll have access to EngSoc’s support with résumé critiques and mock interviews from upper-year students. Throughout your time at Waterloo, you’ll discover many EngSoc traditions as diverse as acting in theatre productions, hosting charity events, proudly wearing your coveralls, and celebrating the EngSoc mascot: The Tool.

A SUPPORTIVE COMMUNITY
The Waterloo Engineering Endowment Foundation (WEEF) collects donations each term to enhance lab equipment, purchase computer upgrades and other academic tools, and support student design teams. WEEF also hires upper-year teaching assistants, who dedicate a work term to teaching first-year students. They’ll be ready to guide you through projects and assignments.

AN EMphasis ON DIVERSITy
Waterloo’s Women in Engineering (WiE) aims to encourage and promote an environment where women can pursue scientific work and study, especially engineering. As a university, we are proud to have more females studying engineering than at any other university in Canada, with more than 1,700 women enrolled across all programs. As of this year, we are also home to the only WiE Living Learning Community in the country, a brand new female residence environment located at St. Paul’s University College. St. Paul’s is also home to the Waterloo Aboriginal Education Centre. This group facilitates the sharing of Indigenous knowledge and provides culturally relevant information and support services for all members of the University of Waterloo community.
ARCHITECTURE

DESIGNING OUR WORLD

At Waterloo’s internationally renowned School of Architecture, you’ll encounter design from day one. You’ll design at all scales; from small prototypes to high-rises. You will learn about architectural design, structures, materials and technologies, each understood within larger cultural transformations in the world. Beautifully set on Ontario’s Grand River in the historic centre of Galt in Cambridge, a 35-minute drive from Waterloo’s main campus, Architecture’s stunning historic building has all the tools to inspire you: design studios, computer labs and a fabrication workshop. Top students choose our program for its integrated design studios, strong student body, award-winning professors, collaborative culture the 6 co-op terms as well as our unique cultural history stream and Rome campus.

ONLY AT WATERLOO

You can work for distinguished international firms as early as second year.

UP TO 41% of Architecture co-op jobs are outside of Canada

AREAS OF LEARNING

» Architectural design
» Cultural history, and theory
» Technology and environment
» Urbanism and landscape
» Visual and digital media

CAREER POSSIBILITIES

Architecture and urban design
Construction industry and restoration
World heritage and sustainable development

CONCENTRATIONS

» Engineering mechanics
» Geotechnical engineering
» Project management
» Structural engineering
» Transportation engineering
» Urban and municipal systems
» Water resources engineering

AREAS OF LEARNING

» Architectural design
» Cultural history, and theory
» Technology and environment
» Urbanism and landscape
» Visual and digital media

CAREER POSSIBILITIES

Construction engineering and management for infrastructure projects
Design of buildings, bridges and other structures
Planning and implementation of public transportation systems
Design of municipal water networks

CIVIL

DESIGN AND BUILD A BETTER TOMORROW

Population growth, climate change, aging infrastructure and the need for sustainability are the challenges that civil engineers tackle as they lead the creation and management of the world’s built infrastructure. Waterloo provides you with the knowledge and skills needed to succeed in this exciting and challenging role by exposing you to Civil Engineering subjects and design projects in your first and second years. A wide range of advanced electives allows you to customize your education to suit your interests and career goals. By the end of your degree, you’ll be ready to design, analyze, construct and manage everything from airports and skyscrapers to bridges, transportation networks, municipal water systems and more.

CONCENTRATIONS

» Engineering mechanics
» Geotechnical engineering
» Project management
» Structural engineering
» Transportation engineering
» Urban and municipal systems
» Water resources engineering

CAREER POSSIBILITIES

Construction engineering and management for infrastructure projects
Design of buildings, bridges and other structures
Planning and implementation of public transportation systems
Design of municipal water networks

AREAS OF LEARNING

» Architectural design
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CAREER POSSIBILITIES

Construction engineering and management for infrastructure projects
Design of buildings, bridges and other structures
Planning and implementation of public transportation systems
Design of municipal water networks

UP TO 41% of Architecture co-op jobs are outside of Canada
ENVIRONMENTAL

GLOBAL RESILIENCE IN INFRASTRUCTURE

Society increasingly faces water and other resource scarcity and quality challenges. Demand for cleaner and more resource-efficient production and consumption is growing faster than ever. Engineers must tackle these issues and lead the development of technologies that increase the resilience of the world’s man-made and natural infrastructure. At Waterloo, you can harness your passion for sustainability, mathematics and science into a career. Tailor your degree by choosing electives in engineering, as well as earth and environmental science, biology, chemistry, planning and geography and environmental management. By graduation, you’ll have developed the diverse science, engineering and management skills needed to lead and innovate smart environmental design and practice in any sector.

CONCENTRATIONS

- Environmental modelling
- Hydrology, water resources engineering and management
- River and lake restoration
- Water, wastewater, air and soil quality treatment engineering and management

CAREER POSSIBILITIES

- Design and management of water, air and land treatment processes
- Protection and revitalization of ecosystems
- Public health engineering
- Industrial sustainability and compliance

HANDS-ON EXPLORATION

Geological Engineering merges an active understanding of geoscience with innovative engineering design, to guide humanity’s interaction with earth materials. In this program, you’ll build critical skills for the sustainable development and management of Earth’s vital mineral and energy resources, design building foundations and earth structures, such as dams and waterways, and learn ways to mitigate natural disasters. In your first 2 years, you’ll learn geological engineering concepts as they apply to engineering design, along with mathematics, science and communications. In your upper years, you’ll study advanced topics in geoscience (including field courses) and geotechnical engineering, and will select electives in earth science, as well as civil, environmental and chemical engineering that reflect your career plans and personal interests. Our experienced graduates are in demand in the fields of mining, infrastructure, energy, geohazards and environmental assessment.

CONCENTRATIONS

- Geomechanics
- Hydrogeology
- Resource exploration and development
- Natural hazard assessment
- Environmental monitoring and management

CAREER POSSIBILITIES

- Exploration planning for mines and quarries
- Geotechnical consulting
- Resource exploration and risk management
- Earthquake and landslide risk assessment

DOUBLE THE OPPORTUNITY!

Geological engineering grads qualify for both the professional engineering (p.Eng) and geologist (p.Geo) designations.

When choosing a university, Morgan wanted to gain first-hand, outdoor experience in combination with technical theory.

The Geological Engineering program allowed me to gain experience with a range of lectures, outdoor and indoor labs, and field trips to northern Ontario, and internationally, in fourth year.

MORGAN, THIRD-YEAR STUDENT
CHEMICAL TECHNOLOGY

OPPORTUNITIES IN EVERY INDUSTRY

As a Chemical Engineering student, you’ll learn from some of the world’s leading experts in fuel cells and biodiesel, water purification, and air pollution. You’ll discover how to transform raw materials into useful products, with courses in materials science, chemical reaction engineering, process control and more. Plus, co-op will give you opportunities in a wide range of industries, including petrochemical, biomedical, alternative fuel and alternative energy. You’ll be inspired by the impact chemical engineers have on everything we touch, see, taste and smell.

SOLVE REAL-WORLD PROBLEMS WORKING ACROSS TRADITIONAL DISCIPLINES

While immersed in a specialty that crosses boundaries between traditional disciplines, such as chemical and electrical engineering, chemistry, biology, materials science and quantum physics, you’ll use leading-edge technology and equipment to research, design and manipulate systems measured in billionths of a metre.

Discover the nanoscience and engineering skills that industry is incorporating into its research and product-development cycles. Co-op provides opportunities in a variety of industries and roles, leading to careers related to polymers and materials, health care, consumer products, semiconductor and electronics, industrial engineering and consulting. Graduates pursue academic research, secure technical positions in a wide range of industrial sectors and start their own companies — often with the support of the University’s entrepreneurial ecosystem.

CONCENTRATIONS

- Biochemical engineering/biotechnology
- Energy and environmental systems and processes
- Materials and manufacturing processes
- Process modeling, optimization and control

CAREER POSSIBILITIES

- Design and control of chemical plants
- Production of pharmaceuticals and bio-products
- Polymer synthesis and processing

NANOTECHNOLOGY

SOLVE REAL-WORLD PROBLEMS WORKING ACROSS TRADITIONAL DISCIPLINES

While immersed in a specialty that crosses boundaries between traditional disciplines, such as chemical and electrical engineering, chemistry, biology, materials science and quantum physics, you’ll use leading-edge technology and equipment to research, design and manipulate systems measured in billionths of a metre.

Discover the nanoscience and engineering skills that industry is incorporating into its research and product-development cycles. Co-op provides opportunities in a variety of industries and roles, leading to careers related to polymers and materials, health care, consumer products, semiconductor and electronics, industrial engineering and consulting. Graduates pursue academic research, secure technical positions in a wide range of industrial sectors and start their own companies — often with the support of the University’s entrepreneurial ecosystem.

CONCENTRATIONS

- Nano-electronics
- Micro and Nano-Instruments
- Nanobiotechnology
- Nano-materials

CAREER POSSIBILITIES

- Materials researcher
- Energy storage
- Development of wearable biosensors
- Semiconductor process engineer

CANADA’S ONLY undergraduate nanotechnology engineering program.

Nanotechnology Engineering is a program at the crossroads between engineering and fundamental sciences. It gives us, as students, the know-how to address challenges on both of these fronts.

BEN, THIRD-YEAR STUDENT

Nanotechnology Engineering is a program at the crossroads between engineering and fundamental sciences. It gives us, as students, the know-how to address challenges on both of these fronts.
ANYWHERE YOU FIND ENERGY, INFORMATION OR AUTOMATION

Harness the power of electricity to create the next generation of electronics, sensors and information networks through engineering principles. In the Electrical Engineering program, you can specialize and gain experience in a range of fields, including power generators, hybrid cars, automation and robotics, radio frequency tracking systems, telecommunications devices and circuits, and green energy. You’ll learn from leaders in the future of energy systems and information transfer, and get more hands-on experience in state-of-the-art labs than any other program. By graduation, you’ll be up to speed with real industry knowledge, ready to jump into a challenging career.

Applying knowledge learned in the classroom to real-world problems is the most rewarding part of Electrical Engineering, says fourth-year student Bonnie.

Lab work and hands-on learning in co-op placements helped me solidify the concepts learned in school. It helped me better understand the bigger picture and how all the different concepts learned in Electrical Engineering come together.

BONNIE, FOURTH-YEAR STUDENT

LARGEST GROUP

of Electrical Engineering professors in Canada, giving you more upper-year electives to choose from.

CONCENTRATIONS

- Control and robotics
- Digital communication systems
- Electronic devices, circuits and systems
- Energy distribution, motors/ generators, power electronics and energy marketing
- Microwave (radio frequency) or photonic devices and systems
- Networks and distributed computing
- Signal processing
- ...and many more.

CAREER POSSIBILITIES

- Design and fabrication of CPUs and GPUs
- Design and maintenance of fibre optic networks
- Development of medical sensors and imaging systems
- ...and many more.

PROCESS, TRANSFER AND STORE THE WORLD’S INFORMATION

Become an expert in computer hardware-software interactions, and how to create systems that meet real-world performance needs. At Waterloo, you’ll discover multimillion-dollar labs that reflect cutting-edge research and development, such as embedded systems and wireless technology. A focus on design and a large variety of upper-year electives will let you apply your computer engineering knowledge to any industry relying on digital systems — including enterprise software, automotive and aerospace, automation and robotics, networks and databases, health care, and security.

CONCENTRATIONS

- Communications and wireless systems
- Computer architectures and embedded systems
- Control and robotics
- Networks and distributed computing
- Signal processing and computational intelligence
- Software design and architecture
- Software security and embedded software

CAREER POSSIBILITIES

- Design of computer architecture
- Creation of telecommunications devices
- Development and analysis of application software
- ...and many more.
SOLVE REAL-WORLD PROBLEMS BY BUILDING SOFTWARE SYSTEMS

Use computer programming and engineering problem-solving to create usable, affordable and faster software. Discover how to develop software systems that ensure the reliability, performance and usability demanded by today’s industrial and business applications. With this program, you’ll gain the skills to create software with the user in mind. Plus, our focus on teamwork and collaboration will enhance your communication, business and reasoning skills, preparing you for the workforce.

THE BEST OF BOTH WORLDS

The software program pulls from world-renowned expertise in the Electrical and Computer Engineering department and Waterloo’s David R. Cheriton School of Computer Science.

ANALYTICS AND ENGINEERING FOR OPTIMIZED PERFORMANCE

In Canada’s first Management Engineering program, you’ll use industrial engineering principles, advanced analytics, math and computer programming to optimize and improve processes in any organization. You’ll gain the knowledge and skills to design and implement solutions to complex technical and management problems. Our confident grads are in demand, working in a wide variety of industries, including software, finance, supply chain, logistics and health care.

CAREER POSSIBILITIES

- Management consultant
- Business and data analyst
- Industrial engineer
- Project and product manager
- Big Data analytics
- Operations management and optimization
- Logistics and supply-chain management
- Software and user experience
- People, organizations, and technology

CONCENTRATIONS

- Big Data analytics
- Operations management and optimization
- Logistics and supply-chain management
- Software and user experience
- People, organizations, and technology

#BEYONDIDEAS

In Management Engineering, you’ll learn about how to draw important insights from big data. In her co-op position at Tile, Pallavi is using data analytics to understand the metrics that make a community of Tile users effective, helping her company improve the design of their product.

PALLAVI
THIRD-YEAR STUDENT

In her co-op position at Tile, Pallavi is using data analytics to understand the metrics that make a community of Tile users effective, helping her company improve the design of their product.
MECHANICAL SYSTEMS THAT IMPROVE THE WORLD

Design and manufacture mechanical parts from the right materials with advanced manufacturing processes. In the Mechanical Engineering program, you'll get hands-on experience right away, dissecting and building technologies that improve society. You'll use a broad, multi-disciplinary set of skills, using in-depth knowledge of controls, fluids and energy systems, while combining a variety of factors, such as environment, public health and resources. With such a flexible program, your career possibilities are endless — from aircraft, to green energy technologies.

CONCENTRATIONS
- Robotics, automation, control, and vehicle systems
- Fluid mechanics and micro-fluidics, fire safety
- Materials engineering and processing, manufacturing processes, welding and joining
- Solid body mechanics and machine design
- Thermal engineering, heat transfer and combustion, green energy

CAREER POSSIBILITIES
- Development of satellite equipment
- Design of next-generation wind turbines
- Design and development of automotive systems

MECHATRONICS

ELECTRO-MECHANICAL DESIGNERS

Use a multi-disciplinary and systems-based approach to develop the “intelligent” electro-mechanical devices and integrated systems present in our daily lives — ATMs, anti-lock braking and other driving assistance systems, satellite systems, auto-pilot aircraft, and wearable devices. In Mechatronics Engineering, you’ll combine the powerful elements of machines, electronics, computers and software in the classroom, with hands-on labs and co-op. Our multi-faceted grads are prepared for the integrated nature of real-world engineering. Something employers love!

CAREER POSSIBILITIES
- Design and implementation of robotic-control systems
- Design and creation of wearable devices
- Development of next generation additive manufacturing (3D printing) systems
- Design and development of electric, hybrid and autonomous vehicles

During his co-op jobs, Craig was able to travel the world and work for some of the top international tech companies.

My favourite part about Waterloo Engineering is the co-op. It’s unbelievable to me that I get to travel the world while earning my undergraduate degree. Even better, I get paid to work around the world and can use that money to fund my degree. The University of Waterloo has given me the opportunity to build robots in Germany with Siemens and develop new programs in Seattle with Microsoft. It’s an experience that’s hard to beat.

CRAIG, THIRD-YEAR STUDENT
BIOMEDICAL

AN INNOVATIVE APPROACH TO HEALTH

Combine biology with applied sciences and engineering to solve health-related problems and develop tools for diagnosis, treatment, and prevention. In the Biomedical Engineering program, you’ll develop knowledge in design, physiology, biomechanics, physics and instrumentation. You’ll have a broad base of knowledge, helping you communicate across the many areas of expertise used in this field. Hands-on labs will give you experience modelling and designing biomedical systems. By graduation, you’ll be ready to design innovative technologies and engineering solutions — from pacemakers and drug delivery systems, to the latest running gear.

AREAS OF LEARNING

- Biodevices
- Biomechanics
- Neuroscience
- Signal and image processing
- Sports engineering

CAREER POSSIBILITIES

- Biomedical data analysis
- Research and development of medical devices
- Product design of sporting equipment

SYSTEMS DESIGN

TACKLING INTERDISCIPLINARY PROBLEMS

Everything on our planet interacts — ecosystems, transportation networks, energy transfer and biological systems. In Systems Design Engineering, you’ll use design creativity, systems modelling and analysis tools to develop “big picture” solutions to problems that span multiple engineering disciplines. Building on a solid engineering foundation, with a design course every term and access to more than 300 electives, you’ll graduate with skills in engineering design, project management and teamwork. By graduation, you’ll be ready to develop comprehensive, groundbreaking solutions for the toughest engineering problems.

CONCENTRATIONS

- Human systems engineering
- Intelligent systems engineering
- Societal and environmental systems
- Systems modeling and analysis

CAREER POSSIBILITIES

- Design and creation of wearable tech
- Product design of medical devices
- Implementation of water treatment systems

PURSUE MINORS AND CONCURRENT DEGREES

Systems Design is our most flexible Engineering program, giving you more freedom with your courses.
HOW TO APPLY

1. Apply online and pay fees by February 1, 2018 for Engineering through the Ontario Universities Application Centre (OUAC).
2. Watch for an acknowledgement email with your next steps and Waterloo ID number.
3. Submit any required documents by March 1.
4. Accept your Offer of Admission through OUAC and submit your Residence Community Ranking Form with a deposit.

QUESTIONS?
enginfo@uwaterloo.ca
uwwaterloo.ca/engineering/applying

AN ADMISSION INFORMATION FORM (AIF) IS REQUIRED FOR ADMISSION

TELL US MORE

Are you an athlete or musician? Do you have a passion for student council? Are you a tireless volunteer, or have previous work experience? Tell us what makes you uniquely qualified to be a Waterloo Engineer on the Admission Information Form (AIF).

ADMISSION REQUIREMENTS

<table>
<thead>
<tr>
<th>Subject</th>
<th>Minimum Requirement</th>
<th>Other Canadian Provinces and Territories</th>
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<td>English</td>
<td>80%</td>
<td>70%</td>
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<td>Architecture</td>
<td>Physics</td>
<td>80% or 21600 calculus courses</td>
</tr>
<tr>
<td>Engineering Programs</td>
<td>Physics</td>
<td>80% or 21600 calculus courses</td>
</tr>
<tr>
<td>Calculus &amp; Vectors</td>
<td>English</td>
<td>80%</td>
</tr>
<tr>
<td>Maximum Grade in Each Course</td>
<td>75%</td>
<td>70%</td>
</tr>
</tbody>
</table>

ENGAGEMENT PROGRAMS

<table>
<thead>
<tr>
<th>Program</th>
<th>English Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biomedical, Software</td>
<td>85-89</td>
</tr>
<tr>
<td>Chemical, Civil, Environmental, Geomatics, Management, Nanotechnology, Systems Design</td>
<td>85-89</td>
</tr>
<tr>
<td>Computer, Electrical, Mechanical, Mechatronics</td>
<td>90-94</td>
</tr>
</tbody>
</table>

Scholarships

<table>
<thead>
<tr>
<th>Program</th>
<th>Amounts</th>
<th>Separate Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Students</td>
<td>$1,500-$2,000</td>
<td>No</td>
</tr>
<tr>
<td>Architecture Scholarship</td>
<td>$1,500</td>
<td>No</td>
</tr>
</tbody>
</table>

FINANCING YOUR EDUCATION

ENGLISH LANGUAGE REQUIREMENTS

If English is not your first language and your 4 most recent years of full-time education have not been taught in English, you'll be required to submit a test of English language proficiency.

OPTION 1  
Internet-based TOEFL (iBT)

<table>
<thead>
<tr>
<th>Speaking</th>
<th>Writing</th>
<th>Reading</th>
<th>Listening</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td>5.5</td>
<td>6.5</td>
<td>6.5</td>
</tr>
</tbody>
</table>

OPTION 2  
IELTS

<table>
<thead>
<tr>
<th>Speaking</th>
<th>Writing</th>
<th>Reading</th>
<th>Listening</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.5</td>
<td>5.5</td>
<td>6.5</td>
<td>6.5</td>
</tr>
</tbody>
</table>

OPTION 3  
MCAT

<table>
<thead>
<tr>
<th>Speaking</th>
<th>Writing</th>
<th>Reading</th>
<th>Listening</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td>5.5</td>
<td>6.5</td>
<td>6.5</td>
</tr>
</tbody>
</table>

OPTION 4  
PTE (Academic)

<table>
<thead>
<tr>
<th>Speaking</th>
<th>Writing</th>
<th>Reading</th>
<th>Listening</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td>63</td>
<td>65</td>
<td>65</td>
</tr>
</tbody>
</table>

ENGLISH LANGUAGE SCORE A LITTLE LOW?

You may be eligible for admission through Waterloo’s Bridge to Academic Success in English (BASE) program or intensive summer iBASE program.

BROADEN YOUR STUDIES

ENGINEERING OPTIONS

Expand your perspective and gain a secondary emphasis in another subject or career area. Our list of engineering options can be completed using your electives, and options will be recognized on your diploma upon graduation.

- Biomechanics
- OUA/Engineering Entrepreneurship
- Environmental Engineering
- International Studies in Engineering
- Life Sciences
- Management Sciences

Enhance your degree with an option, minor, or concentration.

SCHOLARSHIPS

<table>
<thead>
<tr>
<th>Program</th>
<th>Amounts</th>
<th>Separate Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering, Architecture</td>
<td>$1,500-$2,000</td>
<td>No</td>
</tr>
<tr>
<td>Waterloos Residence Scholarship</td>
<td>$1,500-$2,000</td>
<td>No</td>
</tr>
<tr>
<td>Engineering, Entrepreneurship</td>
<td>$1,500</td>
<td>No</td>
</tr>
</tbody>
</table>

*International Experience and Research Awards are available in upper years, should you choose to claim them. Students must complete their first-year courses with an 80% average. The International Experience Award is only available to Canadian citizens or Permanent Residents.