Undergraduate Studies 2025-2026 ENGERERNG

CA / CA



UNIVERSITY OF SASKATCHEWAN College of Engineering ENGINEERING.USASK.CA

BE WHAT THE WORLD NEEDS



Who are ENGINEERS?

The answers might surprise you.

Engineering is not just for people who excel at math and science.

You'll find students who are interested in sustainability, the arts, entrepreneurship, social justice, agriculture, medicine, and more!

There's a place for you in engineering.

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Fourth-year mechanical engineering student presenting her design project on sustainable mining at the college's Capstone Design Showcase.

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REFENGINEERED

A first-year engineering program that's built to help you succeed. We've changed the first-year engineering timetable to help you with school-life balance.

First-year classes are shorter, modular and strategically sequenced so you can take what you've learned in one class and apply it in another.

You'll be graded on your competency and skills, with multiple opportunities to show understanding of key concepts, and have chances for 'do-overs'. You'll be placed in a Study Squad with other first-year students so you can work on assignments and homework together – a proven way to learn.

Course content is broader and more relevant to real-world engineering.

By the end of your first year, you will be better prepared for upper-year classes and ultimately your engineering career.



ACADEMIC SUPPORTS



BALANCED SCHEDULE



CHANCES TO TRY AGAIN



HANDS-ON LEARNING



COMMON BREAKS



MODULAR COURSES



RE-ENGINEERED Supports

Engineering Jumpstarts

Online resources and automated assessments, known as Engineering Jumpstarts, are here to support you in reviewing key high school material needed for your engineering classes, helping you get off to a strong and successful start!

Block Registration

Instead of choosing individual courses, you will register for one block of classes that contains a schedule with all your classes and labs. There are about 50 students per block and you will have all your courses together.

Study Squads

Get instant friends and study partners from day one with Study Squads! You will be placed in a squad to do certain assignments together, giving you a ready-made group for doing homework and making connections.

Help Sessions

Every Monday-Friday there are structured study sessions where you can get help with multiple classes; it's also a structured space to study and complete assignments.

Mitchel Van Kessel FIRST-YEAR ENGINEERING STUDENT



RE-ENGINEERED *Flex*

Balancing family, work, sports, and studies can be challenging. Re-Engineered Flex is designed to help you thrive both academically and personally.

Smooth Transition

Spread first-year courses over two years to help you transition into engineering.

Full-Time Status

Maintain full-time student status while reducing your course load.

Reduced Stress

Ease into your studies with a manageable pace, reducing the pressure of a heavy course load.

Increased Flexibility

Accommodate family, work, sports, and other commitments without compromising your academic goals.







RE-ENGINEERED *Classes*

Refocused so you can master the skills you need

Strong transition to engineering

With supports like Engineering Jumpstarts to prepare you before classes begin, to classes that shows you the diversity of the profession and career paths, you'll be supported for strong transitions from student to becoming future engineers.

Broader exposure to natural sciences

Experience a strong introduction to natural sciences in the Fall Term through short courses in chemistry, biology, physics, and geology, rather than just one natural science elective.

Holistic approach to the engineering profession

Your first-year classes include business content that highlights the connection between entrepreneurship and design, along with a focus on Indigenous cultural context to integrate into the curriculum.

Greater employability after first-year

You will boost your employability after first year with proficiency in a computer programming language, along with training in basic first aid, CPR, WHMIS, and an understanding of an engineer's health and safety obligations.



RE-ENGINEERED *Assessment*

Refocused so you can master the skills you need

Graded on specific skills

Your grades will reflect your competency and skills, not how well you can memorize large amounts of material.

Chances to try again

You will have opportunities to improve your grades during our Fall and Winter Top Ups. Our goal is to ensure you feel confident in the skills you'll need during your degree and your engineering career.

No penalty for early mistakes

We care about your learning, and we want you to improve. If you get a better grade on your second or third try - that's the grade that will count!

Evaluation throughout the semester

You will be tested on modules of content throughout your courses using competency-based assessment, ensuring continuous evaluation rather than one highstakes exam.

Even more HANDS-ON LEARNING

Practical experience in our labs and beyond is a key part of your USask Engineering degree.

Discipline experience course

Not sure what Engineering major to choose? In December you will spend a week learning about the different majors you can take at USask. Get hands-on experience in the labs, talk to engineers who work in the field, and really get to know each discipline before you pick your major!

Virtual reality

Design and test bridges and trusses in our first-year virtual reality lab. No worries if your bridge collapses, you can try again in seconds!

Small class sizes

In depth experiences in our labs, more time with your professors, and one-on-one help from our teaching assistants - it's all possible at USask Engineering.

Bridge course

Transition from first-year engineering to your second year with our Discipline Bridge Course! Instead of writing final exams in spring, engineering students do hands-on work in their chosen discipline, such as learning how to survey, build rockets, or write code.

Co-op internship

Get real-world experience before you graduate! Expand your skills beyond the classroom and build your resume.



Discover your ENGINEERING PATH

Make an informed choice: Experience the majors before you choose

Explore your interests

- Term One: Introduction to all eight engineering disciplines.
- Discipline Experience Week: Choose five disciplines to explore in detail, giving you the opportunity to compare and contrast and learn about the variety of work that engineers do.

Choosing your major

- End of Term Two: Select your major.
- Discipline Bridge Course: Prepares you for your second year and builds excitement for your chosen field.
- Hard Hat Ceremony: Welcome to your discipline at the start of your second year.

Bachelor of Science in Engineering: Eight Majors

You can specialize your major with degree options and focus areas. Dual degree options are also available

Chemical Engineering	Engineering Physics
Civil Engineering	Environmental Engineering
Computer Engineering	Geological Engineering
Electrical Engineering	Mechanical Engineering





CIVIL ENGINEERING

Civil engineers design, construct and maintain structures like roads, highways, bridges, and airports. They help create safe and sustainable small- and large-scale water resource projects such as dams, canals, and pipelines.

Your Impact

- Design physical structures such as hospitals, mine sites, and sport and concert arenas
- Develop safe transportation systems including roads, highways, railways, and bridges
- Protect people and nature through the the building of reservoirs, dams, canals, and land reclamation systems

Co-op Employers

Potential Careers

- Ministry of Highways
- City of Saskatoon
- Catterall & Wright

- Project Manager
 Structural Enginese
- Structural Engineer
- Transportation Engineer

CHEMICAL ENGINEERING

Chemical engineers—sometimes known as process engineers design, implement and improve technology to make our lives more comfortable and safe, while minimizing the effect that we have on the environment. They take raw materials, living cells, chemicals, microorganisms or other energy sources to create useful products.

Your Impact

- Develop new materials to make items like cosmetics, pharmaceuticals, or animal feed
- Devise technologies to extract and refine metals and minerals
- Solve environmental and pollution problems by designing clean energy systems

Co-op Employers

- Nutrien
- Orano
- Saskatchewan Research Council

- Process Engineer
- Petroleum Engineer
- Quality Control Engineer



COMPUTER ENGINEERING

Computer engineering is the design, development and integration of computer programs and technology into devices and systems that improve how we interact with our world. Graduates design smart devices such as cellular phones, medical imaging technology, monitoring devices and much more.

Your Impact

- Create high-tech products like cell phones or security systems
- Develop satellite-based communication systems, wireless networks and devices that comprise the internet
- Design robotic equipment to automate agriculture, healthcare, mining, energy, transportation, and more

Co-op Employers

Potential Careers

- Calian Advanced Technologies
- Nutrien
- Canadian Light Source

- Software Engineer
- Hardware Design Engineer
- Network Engineer

ELECTRICAL ENGINEERING

Electrical engineering is the design and management of power systems, communication networks and the electronic products that are transforming our way of life. Electrical engineers design systems and networks that will deliver services such as internet, text, voice and video information around the globe.

Your Impact

- Design powertrain technology and control systems for vehicles
- Build instruments to be used in agriculture, medicine, manufacturing and more
- Develop green energy technologies such as solar panels

Co-op Employers

- Nutrien
- SaskPower
- Vecima Networks

- Power Systems Engineer
- Electrical Design Engineer
- Renewable Energy Engineer



ENGINEERING PHYSICS

Engineering physics is a bridge between pure and applied science. This program enriches you with analytical skills in mathematics and scientific reasoning, as well as technical skills in the design, construction and operation of systems including nanotechnology, space instrumentation, particle accelerators and more.

Your Impact

- Develop modern sensors for satellites
- Design and test advanced medical imaging and radiation detection equipment
- Create electromagnetic systems, technologies, MRI's, and much more

Co-op Employers

Potential Careers

- Calian Advanced Technologies
- Canadian Nuclear Laboratories
- SaskPower

- Nuclear EngineerResearch Engineer
- Materials Scientist

ENVIRONMENTAL ENGINEERING

Environmental engineering is the application of science and engineering principles to protect and improve public health and the environment. Learn about water treatment, pollution control, land protection, hazardous waste containment and treatment, and municipal solid waste management, including the recycling of materials and energy recovery.

Your Impact

- Develop waste management and land reclamation methods
- Ensure we leave our world and natural surroundings as we found them before a project begins like reclaiming mining sites
- Design and improve systems that protect our food sources, animals and the environment

Co-op Employers

- Nutrien
- City of Saskatoon
- PINTER & Associates Ltd.

- Water Resources Manager
- Environmental Consultant
- Wastewater Engineer



GEOLOGICAL ENGINEERING

Geological engineering connects the worlds of nature and engineering. It applies engineering principles to the natural materials and fluids found in the earth. Geological engineers work to find and develop the resources that society needs for its survival and to discover how to sustainably manage our resources.

Your Impact

- Keep communities safe by analyzing stability of the land and earth in places we live, work, and play
- Design safe, and sustainable extraction of the earth's resources
- Leverage nature and its natural properties to build systems to improve our world

Co-op Employers

- Nutrien
- Teck Resources
- Hatch

- **Potential Careers**
 - Mining Engineer
 - Geological Engineer
 - Geotechnical Engineer

MECHANICAL ENGINEERING

Mechanical engineering designs, develops, builds, and tests a wide range of complex systems and devices. This includes everything from powerful engines and efficient power systems to advanced medical devices and robust mining equipment. Essentially, if it moves, a mechanical engineer was likely involved.

Your Impact

- Design and manufacturer vehicles, from automobiles to spacecraft
- Build advanced renewable energy systems like wind turbines and solar collectors
- Help people by designing biomedical devices such as artificial joints, tissue, and bones

Co-op Employers

- Nutrien
- Canadian Natural Resources
- Graham

- Manufacturing Engineer
- Automotive Engineer
- Mechanical Engineer

DEGREE OPTIONS *Enhance and customize*

Gain specialized skills, stand out in your field, and enhance your career prospects.



Autonomous mobile robotics

Discover how to design, program, and control autonomous mobile robots, learning skills like robot operating systems, sensors, control algorithms and more.

Available for students in Electrical Engineering (B.E.)

Digital signal processing & applications

Explore the incredible technology enabling global communication, from making phone calls and capturing photos, to connecting people worldwide using advanced satellite systems. *Available for students in Computer Engineering (B.E.) and Electrical Engineering (B.E.)*

Sensors, circuits and devices

Study the design, analysis, and implementation of components that detect, process, and transmit signals crucial for various applications from consumer electronics to biomedical devices. *Available for students in Electrical Engineering (B.E.)*

Software

Learn about the design, development, and implementation of programs and algorithms that enable hardware systems to function, ranging from operating systems to apps and more. *Available for students in Computer Engineering (B.E.)*



Bioprocessing

Explore cutting-edge techniques to harness biological systems for sustainable production and innovation in healthcare, agriculture, and beyond. Available for students in Chemical Engineering (B.E.)

Mineral processing

Discover how to extract valuable minerals from ores using diverse chemical processes. This global industry essential for manufacturing cars, electronics, and everyday products.

Available for students in Chemical Engineering (B.E.)



Mining

Gain essential knowledge in mining operations including process engineering, mine design, excavation techniques, and understanding mineral deposits.

Available for students in Geological Engineering (B.E.) and Mechanical Engineering (B.E.)



Petroleum

Immerse yourself in specialized courses in petroleum engineering, oil and gas engineering, and bitumen upgrading to master vital skills for the energy industry's future.

Available for students in Chemical Engineering (B.E.)

Power and energy

Discover how systems and technologies generate, transmit, distribute, and utilize electrical energy efficiently and sustainably, shaping a greener future. *Available for students in Electrical Engineering (B.E.)*



DUAL DEGREES *Can't decide on just one?*

Accelerate your career with a Duel Degree. Earn two degrees in just five years and gain a competitive edge with expertise in multiple fields.

Computer Engineering & Computer Science *Degrees: B.E. & B.Sc.*

Master both hardware and software to excel in tech careers.

Electrical Engineering & Computer Science *Degrees: B.E. & B.Sc.*

Merge electrical systems with computing for innovative solutions.

Engineering Physics & Computer Science *Degrees: B.E. & B.Sc.*

Blend physics with computing to push the boundaries of science and technology.

CERTIFICATES Standout to employers

Be more marketable to future employers! Earn certificates to complement your engineering degree.

Specialized certificates in communication

Enhance your communication skills with our focused certificates, designed to give you a competitive edge and set you apart:

- Leadership and Negotiation (9 credit units)
- Persuasive Communication (9 credit units)
- Technical and Professional Writing (9 credit units)

Specialized certificates in technological innovation

Transform your expertise in technological innovation with our targeted certificates, equipping you with the skills to lead and innovate:

- Technical Innovation (26 credit units)
- New Product Marketing (13 credit units)
- Leading Innovative Teams (13 credit units)





YOUR FUTURE *in engineering* Engineers are in demand - working to make our world a better place.

Careers in Saskatchewan

Job prospects are rated "very good" for engineers of all majors.* In fact, 22 of the 30 goals in Saskatchewan's growth plan require engineers.

Above-average salaries

In Saskatchewan, the average engineering salary in 2024 was \$120,690.** The highest-paying discipline in Saskatchewan is geological/mining/ petroleum engineering with an average wage of \$135,552.

In demand career path

The Government of Canada trend analysis on jobs is predicting a continued shortage of computer engineers, electrical engineers, and civil engineers lasting thorough 2031.***

* Sources: Government of Saskatchewan Job Outlook and Government of Canada Canadian Occupational Projection System ** Source: 2024 Salary Survey: Association of Professional Engineers and Geoscientists of Saskatchewan *** Source: Government of Canada Job Bank Trend Analysis

CO-OP INTERNSHIP *Kickstart your career*

Gain experience through our co-op internship program.

Career Boost

Develop a professional network, hone your engineering skills and gain up to 20 months of paid engineering-focused work experience.

Comprehensive Support

Receive guidance from co-op program staff, an industry mentor, and a workplace supervisor throughout your work term placement.

Real-World Experience

Enhance your degree with full-time, paid work placements, gaining realworld experience and boosting your career prospects.

Flexible Work Terms

Enjoy flexible internship options ranging from summer placements to 16-month terms, starting in January, May, or September.







EXPLORE CO-OP



915 JOBS posted; many employers hire for multiple positions

- \$4,793 average monthly salary
 - **79%** of the placements in Saskatchewan



"I grew up on my family farm outside of Birch Hills, SK. My family was one of the many that came to Saskatchewan on Red River Carts and I identify as being Anishinaabe and Swampy Cree Métis.

I chose to become a student ambassador to try and help others. Not everyone always feels like they fit in and providing some camaraderie among students is extremely critical to success."

Patrick Nelson, FOURTH-YEAR CIVIL ENGINEERING STUDENT



TĀWAW! WELCOME! *Student Supports*

We are dedicated to creating a vibrant and supportive environment where every student can thrive. Here's how we ensure a balanced and enriching university experience:

Academic Supports

• Academic Advising: Support your educational journey, ensuring you're on track to meet your goals and manage your academic workload effectively.

Cultural Supports

• Elder in Residence: Receive holistic guidance from our Elder in Residence, who supports your overall well-being and personal growth through cultural and non-academic guidance.

Indigenous Resource Centre: This space in the Engineering Building serves as a smudging and gathering area where all students can connect, study, relax, and share meals in a supportive and inclusive environment.
International Student and Study Abroad Centre (ISSAC): Support for international students, connect with culture and communities, and explore study abroad options.

Mental Health Supports

• Located within the College of Engineering; we have dedicated counseling and mental health support tailored specifically for engineering students.

STUDENT ADVISING



INTERNATIONAL STUDENTS















STUDENT GROUPS *Build community*

Our strong community offers countless opportunities for you to get involved and grow. Develop leadership and team-building skills while creating lifelong friendships.

USask Engineering has over 20 teams, student groups, and associations you can join! Some of our groups are:

- Huskie Formula Racing (FSAE)
- Steel Bridge Design Team
- USask Sled Dogs 1/4 Scale Tractor Team
- USask Space Design Team (USST)
- USask Aero Design Team
- Engineers Without Borders
- USask Chapter of the American Indian Science and Engineering Society (AISES)
- EngiQueers
- Saskatoon Engineering Students' Society



SCHOLARSHIPS & BURSARIES

Maximize your potential with awards that ease financial stress and reward your achievements.

Award funding totalled over

\$2M for engineering students **1 N 3** engineering students receive

scholarships covering just over 1/3 of their annual tuition Last year, there were over **8000** awards available for undergraduate engineering students

PROSPECTIVE STUDENT AWARDS

Guaranteed Entrance \$500 - \$3,000

No Application Required No Deadline

Best and Brightest Up to \$40,000

Application Required Deadline: December 15

Competitive Entrance \$500 - \$32,000

Application Required Deadline: March 1





TUITION & FEES

The average cost of undergraduate engineering tuition and fees in 2024-25 is \$12,000.

Your student fees cover services that support you as a USask Engineering student, such as:



Health and Dental Insurance A comprehensive package of health, dental, vision and travel benefits to fill the gaps left by provincial medicare and a parent or spouse's plan.



Athletics and Recreation

Use of athletic facilities on campus and free passes to all Huskie Athletics games.



U-PASS

City of Saskatoon bus passes for students.

Student Wellness and Services



Supports valuable student services such as: Student Wellness Centre, Student Affairs and Outreach, and Access and Equity Services.





APPLY

Required high school classes and averages

- Chemistry
- Physics
- Pre-Calculus

Note: a minimum grade of 70% is required in each of these courses

Pathways to Engineering

The Indigenous Student Achievement Pathways (ISAP) in the College of Arts and Science offers the necessary courses to help you meet Engineering admission requirements and apply in your second year.

Required academic average Minimum admission average: 75%

After you apply for admission and provide all the necessary documents, we calculate your admission average using the subjects and grades that appear on your high school transcript using this five-mark formula:

- One English
- One math
- Three other approved subjects:
 - Maximum of two natural sciences
 - Maximum of two social sciences or humanities
 - Maximum of one fine or performing art

Application deadline

Deadline to apply for admission for the 2025 Fall Term: May 1, 2025

Applications are considered up until the deadline. Admission is offered on an ongoing basis until all seats are filled.



RESIDENCE

College Quarter

Live in a vibrant, inclusive community at College Quarter with modern, fully furnished units and convenient campus access.



Modern apartment-style units (2-, 3-, or 4-bedrooms)



Queer Housing program available

Voyageur Place

Located at the heart of campus, Voyageur Place offers traditional dormitory-style units that are connected to campus through tunnels and skywalks, making it popular with first-year students.



Traditional dormitory-style units (single or double rooms) Unlimited Dining meal plan at the Marquis Culinary Centre

Located at the heart of campus and connected by tunnels





Photo Credit: Tourism Saskatoon - Derick Alvin

Study engineering in SASKATOON

Welcome to Saskatoon! Our vibrant city along the South Saskatchewan River offers a friendly community, rich culture, and endless adventures. From scenic trails to a lively arts scene, Saskatoon has it all.

Historic and Beautiful Campus

Experience the charm of our historic campus with its stunning architecture and beautiful green spaces.

Vibrant Community and Culture

Saskatoon offers a welcoming and friendly community with a rich cultural scene, including festivals, music, and arts.

Blend of Urban and Natural

Enjoy the best of both worlds with urban amenities and natural beauty, including scenic riverbank trails and parks for outdoor activities.

The University of Saskatchewan's main campus is located on Treaty 6 Territory and the Homeland of the Métis. We pay our respect to the First Nations and Métis ancestors of this place and reaffirm our relationship with one another.

ENGINEERS THE WORLD NEEDS

Admissions.usask.ca
Engineering.usask.ca
@usask_engineering
@usaskengineering
Email: engineer.recruit@usask.ca



UNIVERSITY OF SASKATCHEWAN College of Engineering Engineering.usask.ca

BE WHAT THE WORLD NEEDS

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