The University of Alberta’s Faculty of Engineering ranks in size among the top five percent of more than 400 engineering schools in North America, with about 4,000 undergraduate and 1,600 graduate students.

It offers 21 engineering programs as well as Canada’s second-largest Engineering Co-op Program, with more than 1,400 paid student placements per year. All of our degree programs are fully accredited by the Canadian Engineering Accreditation Board.

**CME Faculty Members awards and recognitions:**
- Medal for Distinction in Engineering Education from Engineers Canada
- National Sciences & Engineering Research Council Industrial Research Chairs
- Rutherford Awards for Excellence in Undergraduate Teaching
- Canada Research Chairs, Canada Excellence Research Chair
- Excellence in Education Awards from the Association of Professional Engineers and Geoscientists of Alberta
- Provost’s Awards for Early Achievement of Excellence in Undergraduate Teaching
- Fellowships in Scientific Societies

**CME is home to:**
- Institute for Oil Sands Innovation
- Canadian Centre for Clean Coal/Carbon and Mineral Processing Technologies
- Canadian Centre for Welding and Joining
- The David and Joan Lynch School of Engineering Safety and Risk Management

Note: This information was accurate the date it was printed - 09/2017
Materials Engineering

Materials engineering is a scientific approach taken to improving the performance of materials in real-world situations by examining the relationships between their structure, properties, and processing. This concept can be applied to a wide variety of materials, including metals, ceramics, polymers, and composites. Some examples of the engineered materials that have become common in modern society include:

- Semiconductors that allow smaller and faster electronics
- Nanomaterials used in "self-cleaning" surfaces like ceramic stovetops
- High-strength steels for more fuel efficient and safer cars
- Biomaterials that can be inserted under the skin, like pacemakers or artificial joints
- Ultra-lightweight aluminum alloys in airliners
- Plastics: in everything from pop bottles to laptops

Undergraduate Program

Year 1
Natural and Mathematical Sciences
Computer Programming

Years 2 and 3
Thermodynamics
Material Properties and their Characterization
Phase Transformations

Year 4
Performance and Processing of Materials
Engineering Safety and Risk Management
Program/Complementary Electives
Capstone Design Project

*The sequence is indicative and will depend on the specific program.

Your Future

Our BSc graduates find employment in the materials production and processing industries, in the manufacturing industries, in the chemical, petroleum, and petrochemical industries, in the transportation industries, and in the engineering service industries.

Careers in Materials Engineering

- Forensic Engineering, the "CSI" of materials that fail and cause damage to people or property
- Designing a mini-mill that recycles old cars into new steel
- Assessing the integrity of pipelines that transport crude and hydrocarbons
- Developing lighter, stronger metal alloys for use in bridges and skyscrapers
- Engineering nanoparticles to deliver healing proteins to broken bones
- Develop sensors that can detect spoiled food

Scholarships

Engineering students have access to more than $1.5 million per year in scholarships for new and continuing studies including:

- Deans Research Awards
- NSERC Undergraduate Student Research Awards

Co-op Program

In the co-op program, students complement their academic studies with five four-month work terms of paid work experience. The academic requirements are the same as in the traditional program. In order to complete the work experience component, co-op students complete the last six academic terms over a four-year period so a degree with the cooperative program designation requires five years.

Undergrad Research

As an engineering student at a research-intensive university like the U of A, you are at a distinct advantage. Engineering professors are not only dedicated teachers, they are world-leading researchers. Undergraduate engineering students have opportunities to take on research-based courses for credit.

Follow your dream
Experience - learn - innovate