Bachelor of Science (BSc) in Electrical Engineering

Overview

General Program Information

Contact Information

Engineering Student Centre
Location: Engineering C 205
Student Information: **engginfo@ucalgary.ca** or 403.220.5732
Website: **schulich.ucalgary.ca**

Introduction

The Schulich School of Engineering at the University of Calgary was established in 1965. The degrees awarded by the Schulich School since its inception have been recognized by the Canadian Engineering Accreditation Board (CEAB). The engineering curriculum consists of a well-balanced mixture of traditional topics in engineering sciences and specialization in subjects relevant to current industrial practice. The academic staff and students of the Schulich School of Engineering come from all parts of the world, giving the Schulich School its uniquely friendly and international atmosphere.

Enquiries

Enquiries regarding admission, registration, interpretation of regulations, or any matter regarding undergraduate studies in Engineering should be directed to the Engineering Student Centre, Engineering C 205, telephone 403.220.5732. Students and prospective students are invited to view pertinent information available through the engineering website, **schulich.ucalgary.ca/**.

Admissions

Program Admissions Information

Prospective students wishing to enter the Bachelor of Science (BSc) in Electrical Engineering must meet the criteria listed in section **3.1 Admissions** of this Calendar.

Program Details

Simple Requisites

Schulich School of Engineering Requirements
Type
Completion Requirement

Schulich School of Engineering Requirements

Complete ALL of the following Requirement Sets:

- Untitled Requirement Set
- Untitled Requirement Set
- Untitled Requirement Set
- Untitled Requirement Set
- Untitled Requirement Set

For other regulations related to the Schulich School of Engineering see **3. Schulich School of Engineering Regulations**.

Practical Experience Requirement
Type
Completion Requirement

Additional Comments:
All students, who enter into the Schulich School of Engineering in the Fall of 2025 and onwards, must complete a minimum of 500 hours of practical work experience before graduation. The work experience should normally be a paid opportunity in an

engineering or engineering adjacent capacity and may be research focused. The work should contain an appropriate level of responsibility with commensurate pay. Prior to entering into a job placement, every student must complete career readiness modules. Subsequent to a placement, students must complete a Record of Practical Experience form (signed by their supervisor) and complete a placement reflection activity.

Full-time positions may be located anywhere and are normally undertaken during the summer break. Local (located in Calgary and surrounding area) part-time opportunities may be pursued while students are enrolled in courses. The work may be completed at any time during a student's program, and it should be completed before a student enters their final semester of studies. Work done before entering the faculty may count towards the requirement.

Completion of the Internship Program satisfies the practical experience requirement.

In extenuating circumstances, the Dean (or delegate) may reduce the number of required hours of practical experience. Extenuating circumstances will be considered on a case-by-case basis.

For more information regarding extenuating circumstances, see: **G.3.3 Deferral Final Examinations**.

Electrical Engineering, Regular Program

Type

Completion Requirement

First Year Curriculum

Common to all programs:

• First Year Curriculum

Electrical Engineering - Specified Required Courses

Earn at least 66 credits from the following:

- Electrical Engineering 101, 102, 300, 327, 343, 353, 361, 400, 419, 441, 453, 469, 471, 475, 476, 487
- Electrical Engineering 500*; or 6 units from Engineering 503* and 504*; or 6 units from Engineering 501* and 502*
- Computer Engineering 370, 467
- 3 units from Computer Engineering 335 or Software Engineering for Engineers 337
- Mathematics 375
- Physics 365

**The capstone project will require approval to ensure that it has sufficient electrical engineering content.*

Electrical Engineering - Technical Electives

Earn at least 18 credits from the following:

- Untitled Requirement Set

Complementary Studies - Specified Courses

Earn at least 12 credits from the following:

- Engineering 209 (Economics 209) - not open to first-year students
- Engineering 213 or Communications Studies 363
- Engineering 481
- Engineering 513

Complementary Studies - General Courses

Earn at least 6 credits from the following:

- Untitled Requirement Set

Electrical Engineering, Aerospace Engineering Minor

Type
Completion Requirement

Electrical Engineering, Aerospace Engineering Minor

In addition to the required courses for Electrical Engineering, the following courses must be completed:

Complete ALL of the following Course Lists:

- Aerospace Engineering 410, 411
- Computer Engineering 511
- Electrical Engineering 569
- 3 units of Aerospace Engineering Technical Electives

Student in minors may only substitute a maximum of 3 units of minor specific technical electives. The substitution will be made at the approval of the department that is responsible for the minor. Students should contact the Engineering Student Centre to apply for the substitution.

The following Electrical Engineering Required Courses are NOT required for this program:

- 12 units of the 18 required units from Electrical Engineering Technical Electives

Electrical Engineering, Biomedical Engineering Minor
Type
Completion Requirement

Electrical Engineering, Biomedical Engineering Minor

In addition to the required courses for Electrical Engineering, the following courses must be completed:

Complete ALL of the following Course Lists:

- Biomedical Engineering 301, 309, 401, 415
- 9 units of Biomedical Engineering Technical Electives

Student in minors may only substitute a maximum of 3 units of minor specific technical electives. The substitution will be made at the approval of the department that is responsible for the minor. Students should contact the Engineering Student Centre to apply for the substitution.

The following Electrical Engineering Required Courses are NOT required for this program:

- Electrical Engineering 476, 487
- 6 units of the 18 required units of Electrical Engineering Technical Electives
- 3 units of the 6 required units of General Complementary Studies

Electrical Engineering, Computer Engineering Minor
Type
Completion Requirement

Electrical Engineering, Computer Engineering Minor

In addition to the required courses for Electrical Engineering, the following courses the following courses must be completed:

Complete ALL of the following Course Lists:

- Computer Engineering 501, 511
- Software Engineering for Engineers 409
- Computer Science 319, 457
- Electrical Engineering 573
- 3 units from Electrical Engineering 469, 475 or 487

The following Electrical Engineering Required Courses are NOT required for this program:

- 9 units of the 18 required units of Electrical Engineering Technical Electives
- Electrical Engineering 469, 475, 476, 487

Electrical Engineering, Digital Engineering Minor
Type
Completion Requirement

Electrical Engineering, Digital Engineering Minor

In addition to the required courses for Electrical Engineering, the following courses must be completed:

Complete ALL of the following Course Lists:

- Digital Engineering 311, 410, 411, 510, 511
- 3 units of Digital Engineering Technical Electives

Student in minors may only substitute a maximum of 3 units of minor specific technical electives. The substitution will be made at the approval of the department that is responsible for the minor. Students should contact the Engineering Student Centre to apply for the substitution.

The following Electrical Engineering Required Courses are NOT required for this program:

- 12 units of the 18 required units of Electrical Engineering Technical Electives

Electrical Engineering, Energy and Environment Minor
Type
Completion Requirement

Electrical Engineering, Energy and Environment Minor

In addition to the required courses for Electrical Engineering, the following courses must be completed:

Complete ALL of the following Course Lists:

- Energy and Environment, Engineering 355
- Energy and Environment, Engineering 377
- Energy Management 301
- Science 529
- Energy and Environment Technical Electives*
- 6 units from Computer Engineering 467, Electrical Engineering 453, 476

***Students are required to complete 6 units in Energy Engineering Technical Electives**

Student in minors may only substitute a maximum of 3 units of minor specific technical electives. The substitution will be made at the approval of the department that is responsible for the minor. Students should contact the Engineering Student Centre to apply for the substitution.

The following Electrical Engineering Required Courses are NOT required for this program:

- 3 units of the 6 required units of General Complementary Studies
- Computer Engineering 467
- Electrical Engineering 453, 476
- 6 units of the 18 required units of Electrical Engineering Technical Electives

Electrical Engineering, Mechatronics Engineering Minor
Type
Completion Requirement

Electrical Engineering, Mechatronics Engineering Minor

In addition to the required courses for Electrical Engineering, the following courses must be completed:

Complete ALL of the following Course Lists:

- Computer Engineering 511
- Engineering 349
- Mechanical Engineering 461, 561, 562
- 6 units of Mechatronics Technical Electives*

Electrical Engineering 503, 525, 541 may be taken as technical electives in the Mechatronics Minor if not used to meet other degree requirements.

The following Electrical Engineering Required Courses are NOT required for this program:

- Electrical Engineering 476, 487
- 9 units of the 18 required units of Electrical Engineering Technical Electives

BSc Electrical Engineering/BComm Combined Degree Program
Type
Completion Requirement

Required Courses - BSc Electrical Engineering/BComm Combined Degree Program

In addition to the required courses for Electrical Engineering, students must complete courses for the Bachelor of Commerce. Refer to the **Haskayne School of Business** and the **Bachelor of Commerce** for more information.

Complete ALL of the following Course Lists:

- Economics 201†
- Economics 203†
- Junior English (3 units)†
- Strategy and Global Management 217†

†The courses listed above are required for the Bachelor of Commerce and are used to substitute for some of the Complementary Studies (listed above) in the Electrical Engineering, Regular Program.

The following Electrical Engineering Required Courses are NOT required for this program:

- Engineering 209 (Economics 209)
- Engineering 213 or Communication Studies 363

- 6 of the 6 units of General Complementary Studies
- 9 units of the 18 required units of Electrical Engineering Technical Electives

Degree Options
Type
Completion Requirement

Degree Options

Complete ANY of the following Requirement Sets:

- Untitled Requirement Set
- Untitled Requirement Set
- Untitled Requirement Set
- Untitled Requirement Set