Bachelor of Science (BSc) in Software 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 Software 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

School Regulations

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**.

Software Engineering, Regular Program
Type
Completion Requirement

First Year Curriculum

Common to all programs:
- First Year Curriculum

Software Engineering - Required Courses

Complete ALL of the following Course Lists:
- Digital Engineering 319
- Software Engineering for Engineers 300, 337, 338, 380, 381, 400, 444, 460, 461, 462, 480, 555*
- Electrical Engineering 353
- Electrical Engineering 500**; or 6 units from Engineering 503** and 504**; or 6 units from Engineering 501** and 502**
- Computer Engineering 369
- Software Engineering 401, 438, 511, 533
- Mathematics 271
- 3 units from Physics 365 or 369
- Mathematics 375
- 9 units of Software Engineering Technical Electives

*All students in program must complete Software Engineering for Engineers (ENSF) 555.

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

Technical Elective Notes:

1. A maximum of three Software Engineering for Engineers 519 courses can be selected as technical electives.
2. A maximum of one of Biomedical Engineering 509 or 515 can be selected as technical electives.
3. Selection of a course not on this list requires department approval. Elective courses are offered, in any calendar year, at the discretion of the department.
4. All technical elective courses have similar workloads even though the hours in the timetable are variable. One 500-level or high course from either the Faculty of Science or the Schulich School of Engineering may be approved by the Associate Head or by the Program Director as a technical elective. Optional undergraduate courses and all graduate courses are offered, in any calendar year, at the discretion of the department.

Complementary Studies - Specific 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

Software Engineering, Aerospace Engineering Minor
Type
Completion Requirement

Required Courses – Software Engineering, Aerospace Engineering Minor

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

Complete ALL of the following Course Lists:
- Aerospace Engineering 410, 411
- Electrical Engineering 301
- 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 Software Engineering Required Courses are <u>NOT</u> required for this program:
- 9 units of the 9 required units of Software Engineering Technical Electives

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Software Engineering, Biomedical Engineering Minor
Type
Completion Requirement

Required Courses – Software Engineering, Biomedical Engineering Minor

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

Complete ALL of the following Course Lists:
- Biomedical Engineering 301, 309, 401, 415
- 9 units from Biomedical Minor 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 Software Engineering Required Courses are <u>NOT</u> required for this program:
- 9 units of the 9 required units of Software Engineering Technical Electives
- 3 units of the 6 required units of General Complementary Studies
- Software Engineering for Engineers 555

Software Engineering, Mechatronics Engineering Minor
Type
Completion Requirement

Required Courses - Software Engineering, Mechatronics Engineering Minor

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

Complete ALL of the following Course Lists:
- Engineering 349
- Electrical Engineering 327, 441
- Mechanical Engineering 461, 561
- 3 units of Mechatronics Technical Electives*

Courses may be taken as technical electives in the Mechatronics Minor if not used to meet other degree requirements.

Further Technical Elective notes:

1. Selection of a course not on this list requires department approval. Elective courses are offered, in any calendar year, at the discretion of the department.

2. All technical elective courses have similar workloads even though the hours in the timetable are variable. One 500-level or high course from either the Faculty of Science or the Schulich School of Engineering may be approved by the Associate Head or by the Program Director as a technical elective. Optional undergraduate courses and all graduate courses are offered, in any calendar year, at the discretion of the department.

The following Software Engineering Required Courses are __NOT__ required for this program:
- 9 units of the 9 required units of Software Engineering Technical Electives

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Software Engineering/BComm Combined Degree Program
Type
Completion Requirement

Required Courses – Software Engineering/BComm Combined Degree Program

In addition to the required courses for Software 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 Software Engineering, Regular Program.

The following Software 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

- 6 units of the 9 required units of Software Engineering Technical Electives

Degree Options

Type

Completion Requirement

Degree Options

To complete *optional* enhancement(s) to this degree program, refer to:

Complete ANY of the following Requirement Sets:
- Untitled Requirement Set
- Untitled Requirement Set
- Untitled Requirement Set
- Untitled Requirement Set
- Untitled Requirement Set