Master of Engineering (MEng) Electrical Engineering with specialization in Software Engineering:
Course Requirements 2025 - 2026

MEng Graduate Program Office
March 2025

Course based MEng programs in the Department of Electrical and Software Engineering

There are two pathways available for MEng in Electrical Engineering with specialization in Software Engineering: 1-year and 2-year pathway

MEng in Electrical Engineering with Software Engineering Specialization (1 year pathway)

Year 1

Foundation course*	(i)	required	**ENSF 692**	Programming Fundamentals for Data Engineers	Spring
Foundation course*	(ii)	required	**ENSF 693**	Principles of Software Development I	Spring
Foundation course*	(iii)	required	**ENSF 694**	Principles of Software Development II	Summer
ENSF core	1	required	**ENSF 607**	Advanced Software Development and Architecture	Fall
ENSF core	2	required	**ENSF 608**	Databases	Fall
ENSF core	3	required	**ENSF 611**	Machine Learning for Software Engineers	Fall
ENSF core	4	required	**ENSF 612**	Engineering Large Scale Data Analytics Systems	Fall
ENSF core	5	required	**ENSF 614**	Advanced System Analysis and Software Design	Fall
Option (at least 1 of 4) †	9 or 10	option	**ENGG 684**	Project Management for Engineers	Fall
Option (at least 1 of 4) †	9 or 10	option	**ENGG 687**	Ethics, Law, and the Engineering Profession	Fall
ENSF core	6	required	**ENSF 609**	Team Design Project in Software Engineering I	Winter
ENSF core	7	required	**ENSF 610**	Team Design Project in Software Engineering II	Winter
Option (at least 1 of 2)	8 or 9	option	**ENSF 617**	Introduction to Machine Learning	Winter
Option (at least 1 of 2)	8 or 9	option	**SENG 637**	Dependability and Reliability of Software Systems	Winter
Option (at least 1 of 4)	9 or 10	option	**ENGG 681**	Engineering Tools	Winter
Option (at least 1 of 4)	9 or 10	option	**ENGG 683**	Innovation and Entrepreneurship	Winter

Notes:

Regarding red and green highlighted option courses, if you choose two green highlighted options, then complete 1 red highlighted option, and vise versa, to meet the MEng 10 course requirement.

* Foundation courses are only required for non-Software engineering background students, applied and admitted for Spring term.

† ENGG 684 and ENGG 687 are approved option courses, but they are scheduled during Fall term. Since there are 5 required courses to be enrolled in this term as per one year pathway, enrolling in these option courses, may not be ideal.

MEng in Electrical Engineering with Software Engineering Specialization (2-year pathway)

Year 1

Foundation course*	(i)	required	**ENSF 692**	Programming Fundamentals for Data Engineers	Spring
Foundation course*	(ii)	required	**ENSF 693**	Principles of Software Development I	Spring
Foundation course*	(iii)	required	**ENSF 694**	Principles of Software Development II	Summer
ENSF core	1	required	**ENSF 608**	Databases	Fall
ENSF core	2	required	**ENSF 611**	Machine Learning for Software Engineers	Fall
ENSF core	3	required	**ENSF 612**	Engineering Large Scale Data Analytics Systems	Fall
Option (at least 1 of 2)	8 or 9	option	**ENSF 617**	Introduction to Machine Learning	Winter
Option (at least 1 of 2)	8 or 9	option	**SENG 637**	Dependability and Reliability of Software Systems	Winter
Option (at least 1 of 4)	9 or 10	option	**ENGG 681**	Engineering Tools	Winter
Option (at least 1 of 4)	9 or 10	option	**ENGG 683**	Innovation and Entrepreneurship	Winter

Year 2

ENSF core	4	required	**ENSF 607**	Advanced Software Development and Architecture	Fall
ENSF core	5	required	**ENSF 614**	Advanced System Analysis and Software Design	Fall
Option (at least 1 of 4)	9 or 10	option	**ENGG 684**	Project Management for Engineers	Fall
Option (at least 1 of 4)	9 or 10	option	**ENGG 687**	Ethics, Law, and the Engineering Profession	Fall
ENSF core	6	required	**ENSF 609**	Team Design Project in Software Engineering I	Winter
ENSF core	7	required	**ENSF 610**	Team Design Project in Software Engineering II	Winter

Notes:

Regarding Red and green option courses, if you choose two green highlighted options, then complete 1 red highlighted option, and vise versa, to meet the MEng 10 course requirement.

Students interested in maintaining full-time status are recommended to enroll in at least two courses during 1st year winter term.

* Foundation courses are only required for non-Software engineering background students, applied and admitted for Spring term.

MEng Graduate Program (course-based) FAQ

Student Status: Full-time students in the MEng program are normally registered during the Fall (September to December) and Winter (January to April) terms, with a regularly scheduled break during the Spring/Summer terms (May to August). Students will be considered full-time if they enroll in a minimum of 2 courses (6 units) per term during each of the Fall and Winter terms.

Degree Progression: Full-time students must follow the course requirements outlined above in the exact sequence. Students should not take courses in a different sequence than listed, as first-year and second-year courses are prioritized as needed.

Following the course requirements listed in this document will set students up for success. It will also eliminate any enrollment issues like scheduling conflicts, classes being full, inability to enroll due to pre-requisites, etc. If a student does not follow the required course sequencing, they run the risk of degree progression.

Course enrollment: Course enrollment for the Fall 2025 and Winter 2026 terms will begin on April 8, 2025. It is highly recommended that students complete their course enrollment for first year (F25 and W26) as soon as possible. This will help students secure a seat in their required program and option courses. For your second year (F26 and W27), students will be able to enroll by late winter/early spring of 2026.

Academic Standing: B- is the minimum passing grade for students enrolled in graduate programs at the University of Calgary. A student who receives a C+ or lower in any course will normally be required to withdraw from the program.

Students are also required to maintain a minimum Grade Point Average (GPA) of 3.0/4.0, each year. A student whose GPA is lower than 3.0 at the time of their registration anniversary will normally be required to withdraw from the program.

Payment of Tuition and other fees: Tuition will be assessed based on the number of courses a student has enrolled in. Once a student has completed the course enrollment, they will see the total amount (Tuition and General Fees) due under the 'My Financials' section of their Student Centre. Students will use one of the methods outlined on this page to pay their fees. The tuition and general fee will be due by the 'Tuition and Fee Payment Deadline' for that term. To learn more about the deadlines please refer to the Academic Schedule.

Change of Specialization: Students admitted to the MEng program can request to add/drop a specialization, if they wish to. The earliest a student can request this change is after the term break of the first term of classes. Normally, the term break (also known as reading week) will be closer to middle of the term. After this date, a student can submit the change of specialization request form, to the MEng office. To know the exact dates of term break, please refer to the Academic Schedule.

Submissions to add/drop a specialization request are subject to approval and will be dated for the next immediate term. Courses that a student has enrolled in for the first term of their original program, may or may not be applicable for the new specialization. Students are encouraged to review the courses they must enroll in for their first term against the list of courses for their intended specialization. If first-term courses are also approved courses for the intended specialization, a student could potentially use their current courses towards the new specialization. If not, the current courses will remain unused, and students will need to complete all the courses required by the program's new specialization. Additionally, students should ensure that they are certain about switching or dropping specializations, as a reversal will not be possible.

Change of Program: Students admitted to the MEng program can request to change their program to an MSc (thesis-based program) if they wish to. The first step in this process is to identify a supervisor. Please be advised that, without a supervisor, this change will not be possible. The earliest a student can request this change is after the term break of the first term of classes. Normally, the term break (also known as reading week) will be closer to the middle of the term. After this date, students can submit the change of program request form, to the MEng office. To know the exact dates of term break, please refer to the Academic Schedule.

A change of program request is subject to approval and will be dated for the next immediate term. Please be mindful that MEng program-approved courses that students enrol in for the first term, may or may not be applicable for the new MSc program; this will be determined by the department after the change of program request has been submitted. Additionally, students should be sure that they are certain about switching their program, as a reversal will not be possible.

University of Calgary Academic Calendar: For more detailed information on program regulations and requirements, please refer to the University of Calgary Academic Calendar.

Connect with us: Students are encouraged to contact meng@ucalgary.ca or connect with an advisor if they have any questions.