COMPUTER ENGINEERING, B.A.SC. (CLASS OF 2028)

General First Year 2024-2025 (https://www.queensu.ca/academic-calendar/engineering-applied-sciences/first-year-studies/)

Elective courses in years three and four are to be chosen from the Electives List shown below (under Fourth Year), and by consulting suggested Streams and prerequisite paths. Your complete degree program must:

1. Satisfy the minimum Accreditation Units (AU) set by ECE in each CEAB category.
2. Have at least 5 four-hundred level elective courses.
3. Have at least 3 courses from the Electives List that satisfy the Department criteria for qualified accreditation units in the categories of engineering science and engineering design.
4. Counting required core courses and elective courses in all four years, result in a total of no fewer than 157.5 credits for the complete program.

Available combinations of elective courses are subject to timetabling constraints.

Second Year CORE 2025-2026

Code	Title	Units
ELEC 221	Electric Circuits	4.25
ELEC 252	Electronics I	4.25
ELEC 231	Mathematical Methods I for Electrical and Computer Engineering (Mathematical Methods I for Electrical and Computer Engineering)	3.50
ELEC 270	Discrete Mathematics with Computer Engineering App	3.50
ELEC 271	Digital Systems	4.00
ELEC 274	Computer Architecture	4.00
ELEC 278	Fundamentals Of Information Structures	4.00
ELEC 279	Introduction to Object Oriented Programming	4.00
ELEC 280	Fundamentals of Electromagnetics	3.75
ELEC 290	Electrical and Computer Engineering Design and Practice	5.00
ELEC 292	Introduction to Data Science	3.00
Complementary Studies List A - Fall		3.00
Total Units		**46.25**

Third Year CORE 2026-2027

Code	Title	Units
ELEC 326	Probability & Random Processes	3.50
ELEC 371	Microprocessor Interfacing and Embedded Systems	4.00
ELEC 373	Computer Networks	3.50
ELEC 374	Digital Systems Engineering	4.25
ELEC 377	Operating Systems	4.00
ELEC 379	Algorithms with Engineering Applications	4.00
ELEC 392	Engineering Design and Development (Engineering Design and Development)	3.50
APSC 221	Economic and Business Practice	3.00
CMPE 223 or ELEC 376	Software Specifications Software Development Methodology	3.00-3.50
Technical Electives (choose 1)		3.00
Complementary Studies		3.00
Total Units		**38.75-39.25**

Fourth Year CORE 2027-2028

Code	Title	Units
ELEC 498	Computer Engineering Project [1]	7.00
Technical Electives		19.10-19.60
Complementary Studies		3.00
Total Units		**29.10-29.60**

[1] with Departmental and instructor support, students may request to substitute APSC 480 (https://www.queensu.ca/academic-calendar/search/?P=APSC%20480) Multi-disciplinary Industry for ELEC 498 (https://www.queensu.ca/academic-calendar/search/?P=ELEC%20498) Computer Engineering Project

Electives

Computer Engineering: Electives (https://www.queensu.ca/academic-calendar/engineering-applied-sciences/academic-plans/computer-engineering/computer-engineering-electives/)

Course Prerequisites

Normally, registration in a course offered by the Department is allowed provided a mark of at least D- has been achieved in each of the prerequisites for the course. Students having one course prerequisite (numbered 200 or higher) with a mark of FR may still be able to register in a course offered by the Department provided their Engineering Cumulative GPA is at

least 2.0 at the end of the previous session. Prerequisites are listed under the calendar description for each course.

Complementary Studies

Refer to the Complementary Studies section of this calendar for details regarding the requirements for all Engineering plans. For the Computer Engineering Program, the Engineering Economics course is APSC 221 (https://www.queensu.ca/academic-calendar/search/?P=APSC%20221) Economic And Business Practice. Communications units are included within the design courses ELEC 290 (https://www.queensu.ca/academic-calendar/search/?P=ELEC%20290) Electrical and Computer Engineering Design and Practice, ELEC 392 Engineering Design and Development, and ELEC 498 (https://www.queensu.ca/academic-calendar/search/?P=ELEC%20498) Computer Engineering Project.