

2026-2027 Academic Year

ECE 3rd Year Course Registration

ECE Advisors

ECE UG Assistants (WLH-416)

- Sherri Fuller (slf3@queensu.ca)

EE Undergraduate Chair:

- Prof. Yan-Fei Liu (eeugradchair@queensu.ca)

CE Undergraduate Chair:

- Prof. Thomas Dean (ceugradchair@queensu.ca)

Academic Calendar and Registration Dates

- **June 22** The 2026–2027 Academic Calendar is published.
- **June 23** The timetable is released.
- **Mid-July** Course pre-load: students will be preloaded into *core* courses, provided prerequisites are met.
- **July 13** The Shopping Cart opens, and enrollment appointment times are issued.

You will not be able to enroll in courses until your Enrollment Appointment begins. However, you can log in to SOLUS and start adding courses to your Shopping Cart to plan your schedule. Your Enrollment Appointment is your designated time to enroll in courses. [Registration Guide](#)

- **July 20** Course selection and self-enrollment begin (check your enrollment appointment date and time on SOLUS). This is the time to add optional core courses and electives.

Useful Links:

[Registration Guide](#)

[SOLUS Help](#)

Get to know your CURRICULUM

- [Academic Calendar](#)
 - Academic Plans and course information
 - Smith Engineering Policies and Regulations
 - Sessional Dates
- [SOLUS](#) – information about teaching instructors, class location, course schedule;
- [Department of Electrical and Computer Engineering](#)
 - ECE Degree Planning Spreadsheets,
 - Pre-requisite Charts
- [Smith Engineering](#)
 - [FORMS](#) and Student Services resources: academic considerations, accommodations, supplemental exam etc.

Electrical Engineering Graduation Requirements

- Satisfy the minimum Accreditation Units (AU) set by ECE in each CEAB category
- Have at least 5 courses from Electives List A
- Have at least 5 four-hundred level elective courses
- Counting required core courses and elective courses in all four years, result in a total of no fewer than 157.5 (160.5 for ECEi) credits for the complete program

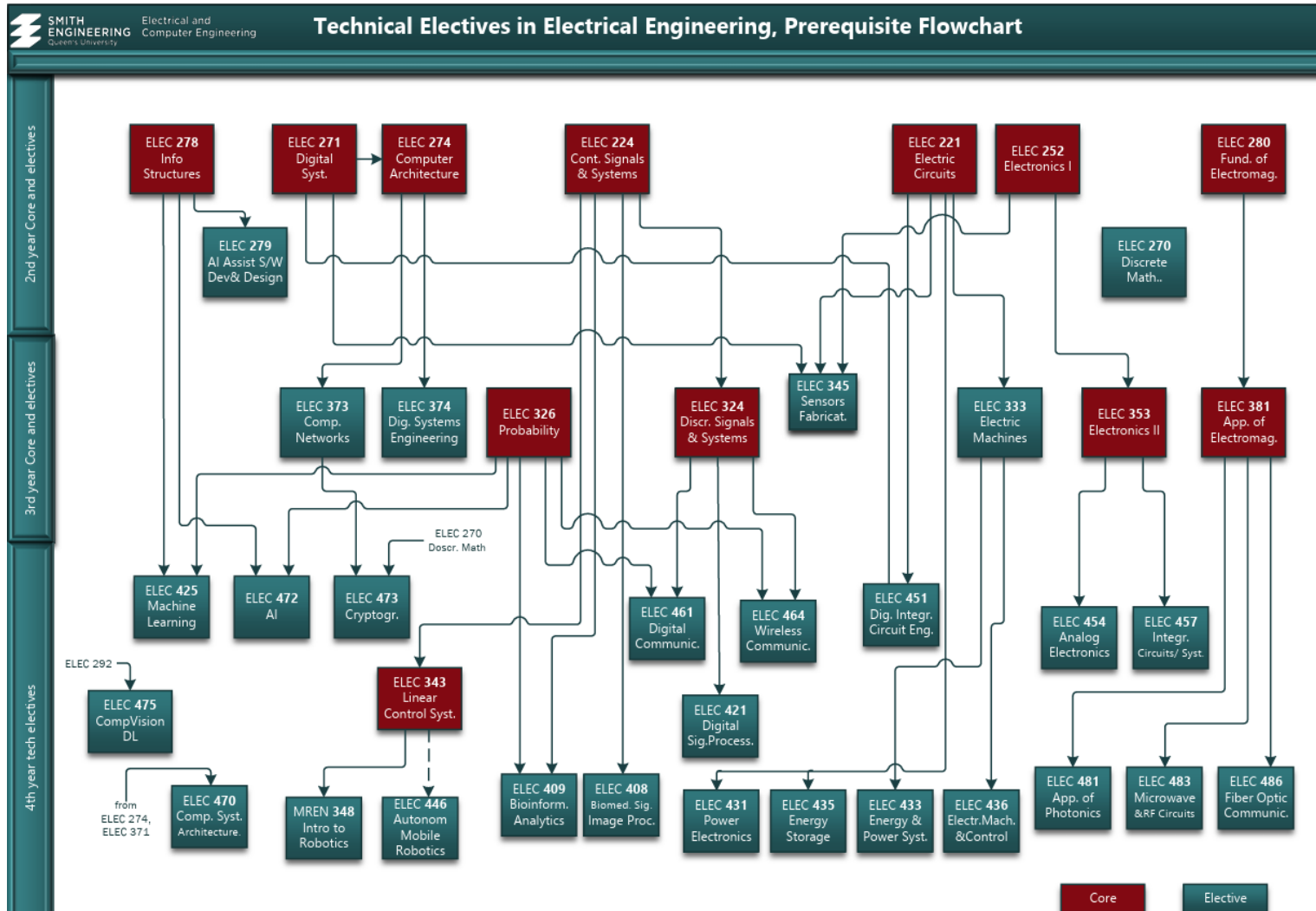
Electrical Engineering, 3rd Year Curriculum

Fall 2026	Winter 2027
ELEC 324 Discrete-Time Signals and Systems	ELEC 372 Numerical Methods and Optimization
ELEC 326 Probability	ELEC 381 Applications of Electromagnetics
ELEC 343 Linear Control Systems	ELEC 392 ECE 3 rd Year Design
ELEC 353 Electronics II	ENPH 336 Solid State Devices
ELEC 371 Microprocessor Interfacing...	APSC 221 Eng. Economics (F/W/S) non-ECEI only
Complementary Studies Elective (any term, F or W)	
Technical Elective (any term, F or W) <i>optional, can be deferred to 4th year</i>	
COMM 301 Launching New Ventures (ECEi only)	COMM 302 Funding New Ventures (ECEi only)

EE: Technical Electives offered in 2026-2027

Fall 2026		Winter 2027	
ELEC 343	Linear Control Systems	ELEC 333	Electric Machines
ELEC 425	Machine Learning and Deep Learning	ELEC 373	Computer Networks
ELEC 431	Power Electronics	ELEC 374	Digital Systems Engineering
ELEC 436	Electric Machines and Control	ELEC 408	Biomedical Signal & Image Proc
ELEC 446	Autonomous Mobile Robotics	ELEC 421	Digital Signal Processing
ELEC 457	Analog Integrated Circuits & Systems	ELEC 433	Energy and Power Systems
ELEC 473	Cryptography and Network Security	ELEC 435	Energy Storage Technology
ELEC 475	Computer Vision with Deep Learning	ELEC 451	Digital Integrated Circuit Engineering
		ELEC 470	Computer System Architecture
		ELEC 472	AI
		MREN 348	Intro to Robotics

Technical Electives in Electrical Engineering – prerequisite flowchart



When selecting technical electives, students have the flexibility to tailor their program based on their interests. You can have a stronger concentration in a sub-discipline of electrical engineering following a particular stream, or mix and match between streams.

Computer Engineering Graduation Requirements

- Satisfy the minimum Accreditation Units (AU) set by ECE in each CEAB category
- Have at least 5 four-hundred level elective courses
- Have at least 3 courses from the Electives List that are offered by the Department of Electrical and Computer Engineering
- Counting required core courses and elective courses in all four years, result in a total of no fewer than 157.5 (160.5 for ECEi) credits for the complete program

Computer Engineering, 3rd Year Curriculum

Fall 2026	Winter 2027
ELEC 326 Probability	ELEC 373 Computer Networks
ELEC 371 Microprocessor Interfacing & Embedded Syst.	ELEC 374 Digital Systems Engineering
ELEC 377 Operating Systems	ELEC 392 ECE 3 rd Year Design
ELEC 379 Algorithms with Engineering Applications	APSC 221 Eng. Economics (F/W/S) non-ECEi only
Optional Core: ELEC 376 S/W Dev. Methodology – OR –	Optional Core: CMPE 223 Software Specifications
Technical Elective (any term, F or W)	
One Complementary Studies Elective (any term, F or W)	
COMM 301 Launching New Ventures (ECEi only)	COMM 302 Funding New Ventures (ECEi only)

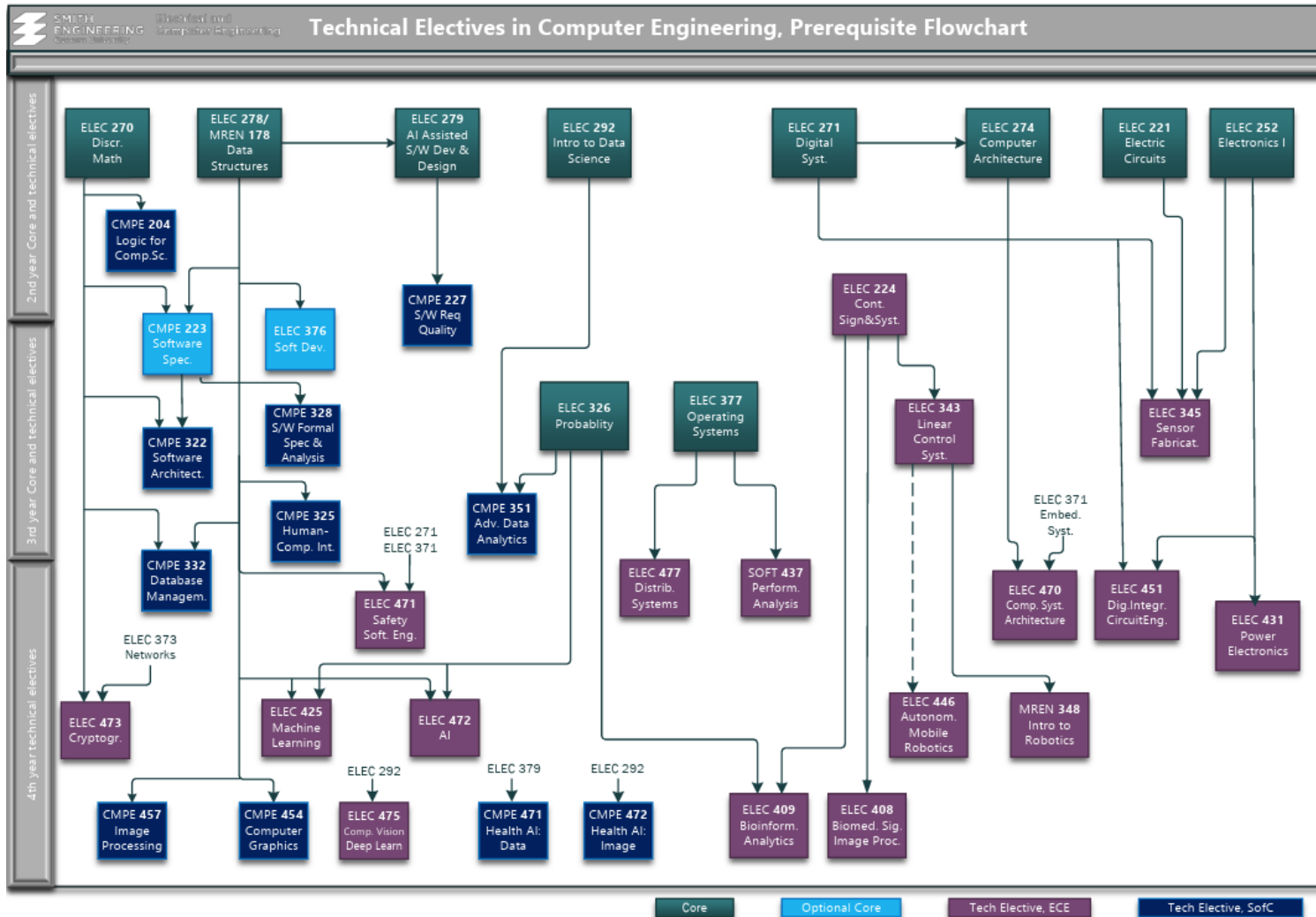
CE: Technical Electives offered by ECE in 2026-2027

Fall 2026		Winter 2027	
ELEC 343	Linear Control Systems	ELEC 224	Cont.-Time Signals & Systems
ELEC 376	S/W Development Methodology	ELEC 372	Numerical Methods and Optimization
ELEC 425	Machine Learning and Deep Learning	ELEC 408	Biomedical Signal and Image Processing
ELEC 431	Power Electronics	ELEC 451	Digital Integrated Circuit Engineering
ELEC 446	Autonomous Mobile Robotics	ELEC 470	Computer System Architecture
ELEC 471	Safety Critical Software Engineering	ELEC 472	AI
ELEC 473	Cryptography and Network Security	ELEC 477	Distributed Systems
ELEC 475	Computer Vision with Deep Learning	MREN 348	Intro to Robotics
SOFT 437	Performance Analysis		

CE: Technical Electives offered by Queen's Computing

Fall 2026		Winter 2027	
CMPE 204	Logic for Computing Science	CMPE 204	Logic for Computing Science
CMPE 223	Software Specifications (Opt. Core)	CMPE 223	Software Specifications (Opt. Core)
CMPE 227	S/W Requirements & Quality Assurance	CMPE 322	Software Architecture
CMPE 328	Formal Specific. & Analysis in S/W Eng	CMPE 325	Human-Computer Interaction
CMPE 330	Health AI: Image-Guided Interventions	CMPE 332	Database Management Systems
CMPE 457	Image Processing & Comp. Vision	CMPE 351	Advanced Data Analytics
		CMPE 454	Comp. Graphics
		CMPE 472	Health AI: 2D and 3D Image Analysis

Tech Electives in Computer Engineering – prerequisite flowchart



When selecting technical electives, students have the flexibility to tailor their program based on their interests. You can have a stronger concentration in a sub-discipline of computer engineering following a particular stream, or mix and match between streams.

STREAMS – Flexibility

ECE with **streams** instead of options

- Suggested streams give a coherent set of courses in a particular area, e.g., AI;
- Streams provide primary and secondary course suggestions; primary courses are essential for a given concentration;
- Streams allow you to mix and match as you wish and provide larger number of courses to choose from.

CE Streams

[Streams of Specialization for Elective Courses in Computer Engineering](#)

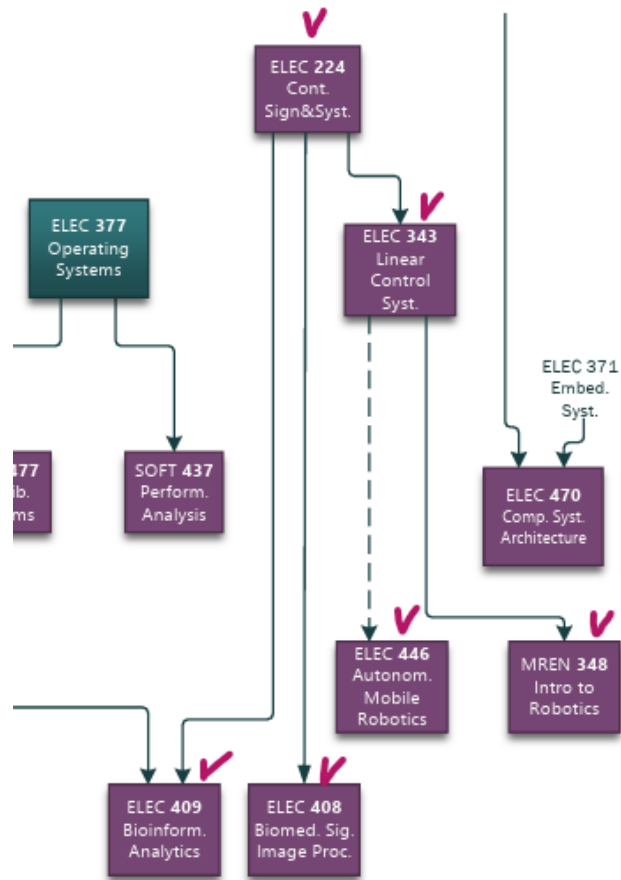
- Computer Hardware
- Computer Systems
- Software Engineering
- Mechatronics
- Artificial Intelligence

EE Streams

[Streams of Specialization for Elective Courses in Electrical Engineering](#)

- Biomedical Engineering
- Communications and Signal Processing
- Photonics, Nanotechnology and Integrated Circuits
- Mechatronics
- Power Electronics and Systems
- Robotics and Control

Computer Engineering – Mechatronics Stream



ELEC 224 – Continuous Signals and Systems (W) is a required prerequisite for registering in Mechatronics Stream electives – ELEC 343, ELEC 446, MREN 348, ELEC 408.

Interested in Robotics courses? Then consider enrolling in **ELEC 224** during the Winter term of your 3rd year.

Refer to the [CE Prerequisites Chart](#) and the Academic Calendar for details.

ECE Design and Research Project Courses

- **ELEC 392** Engineering Design and Development
 - A component of the four-year “design spine” which includes APSC 100, ELEC 290, ELEC 392 and ELEC 490/8. Focuses on taking the technical expertise and learning skills you have gained thus far, and applying it to an engineering design project;
 - topics in design, teams and project management, engineering documentation, social and ethical impacts.

- **ELEC 490/498** Capstone Design Project course
 - prerequisites: 3rd year core courses incl. ELEC 392
 - instructors and project supervisors
 - group of 3-4 to design/build/document

- [ELEC 497 Research project](#) (available to 4th year students):
 - For those with an interest in exploring in depth some technical area in a more independently-driven research study

Complementary Studies Program Requirement

- Complementary Studies (CS) – *not Innovation Stream*
 - Must complete a total of **3 courses** or **9 credits** (108 units) of CS:
 - **1 course (3 credits)** must be from List A Humanities and Social Sciences group;
 - Remaining 2 courses (or 6 credits) can be from List A or List B
 - Typically, take one CS course in each of 2nd, 3rd, and 4th year, but whenever it can fit into schedule is fine.
 - Some CS courses are available online (see Arts and Science Online, SSB online, LAW online).

Q&A:

1. Can we use QUIP (APSC 303) toward a CS course? – *No.*

2. Can I still enroll in the course when the seats appear “reserved”? Why are the seats reserved?

Many Arts & Science courses are restricted (“reserved”) to Arts & Science students during initial registration to ensure they can enroll in required core courses. These restrictions can be lifted after Aug. 17.

3. Where do I go if I have questions specific to an Arts & Science course? – *Contact the course Home Department*

Innovation Stream: COMM & Complementary Studies

2 nd Year	COMM 201 – Introduction to Business for Entrepreneurs F
3 rd Year	COMM 301 – Funding New Ventures F COMM 302 – Launching New Ventures W List "A" Complementary Studies Course F/W/S
4 th Year	COMM 405 – New Business Development F

Course Preload in 3rd Year - *notes*

- Student are registered in 3rd year core courses by the department in July.
- Please note the following:
 - 3rd year Students **can self-enroll** in both core and elective courses;
 - Students **can swap** course sections from their Solus account or drop courses before the drop deadline;
 - Students need to self-register in **Optional Core** courses (*not preloaded*), complementary studies electives, technical electives;
 - APSC 221 will be auto-loaded into 3rd year *Winter* semester, however students can choose to register in APSC 221 in any term – Fall or Winter;
 - Students are unable to register in a course with a missing prerequisite.
 - Students are unable to self-register in first year APSC courses, 2nd year core courses.

[SOLUS tutorials](#)

QUIP - Internship

- 12-16 month accredited paid work experience, students go after completing 2nd or 3rd year (after 3rd year is preferred). Your diploma will read: Bachelor of Applied Science, with Professional Internship.
- [QUIP Requirements, Fees, and Policies](#)
- You will be enrolled in courses APSC 301, 302, 303 and 304 - Professional Internship. QUIP is academically linked: **APSC 303** will count toward your program requirements **as a technical elective at 3.5 credits.**
- Students can register in one academic course per term while on internship.
- For more information about QUIP, please visit the [Career Services QUIP page](#) or contact the QUIP team: quip@queensu.ca
- For Engineering-specific advising and support, contact Corporate Relations: [Corporate Relations Career Education Team](#)

Substitutions

- Courses in each curriculum (CORE, TECH, COMP) meet CEAB requirements and the Smith Engineering Faculty Regulations and listed on your Academic Plan.
- If a student takes a course that is not on the approved curriculum for their program, the course will not count towards their program

.....except.....

- Sometimes a student can *substitute* a course with:
 - Courses taken at another university
 - Courses taken while on exchange at another university
 - Courses that are not on the approved TECH lists
 - A course to replace a CORE course (NOTE: This form of substitution is rare and requires detailed information as to why the student is not taking the CORE course at their home university)

Substitution Process

1. Send an email with [the substitution request form](#) to the Undergraduate Program Assistant (UPA) indicating the course you would like to take and what course you would like to substitute it for. Also include a web link to the following information:
 - a) Course syllabus
 - b) Total # of lecture/lab/tutorial hours
 - c) Course grading scheme
 - d) Reason why you would like to substitute one course with another
2. Instructor Signature:
 - a) CORE/TECH Courses: The instructor of the course to be substituted will also need to sign the form as an indication that the course is a good substitute
 - b) Complementary Studies Courses: No instructor signature required
3. UPA will submit the course substitution material(s) to the Undergraduate Program Chair for review. The UG Chair will sign the form if they support the request.
4. UPA then submit the completed paperwork to the Smith Engineering Faculty Office for review by the Operations Committee. For courses taken outside of Queen's, the \$63.00 administration fee needs to be paid via online system at https://store.engineering.queensu.ca/index.php?main_page=index&cPath=8
5. You will receive an email from the Faculty Office with the Operations Committee's decision. This email can be used as a Letter of Permission (LOP) to register for courses at another institution.

Prerequisites

- Prerequisites: capture material necessary to do the course
 - If the professor thought you could do the course without knowing that material, it would not have been made a prerequisite
- Prerequisites are only waived in exceptional circumstances
 - Submit [a Prerequisite Waiver form](#) to the course instructor, then if approval granted, forward your request to the Program Assistant, which will ask the UG Chair to waive the prerequisite.

Before submitting the form, the instructor of the course for which the waiver is required must approve the waiver justification in writing (sign the form or provide the approval over email).

Timetabling

- Timetabling of all courses is done by University Registrar centrally each year
- No guarantee that desired combinations of electives are completely conflict-free
- You must be flexible in 3rd and 4th year, as needed

Course Planning

- Use your **degree planning spreadsheet** to verify that all program requirements will be met
- Follow the Calendar & all preregistration instructions
 - Confirm core courses are preloaded
 - Select electives (technical and/or complementary)
 - Check course prerequisites and exclusions
 - Submit substitution requests for courses outside of ECE that are not listed as official technical electives (CISC, MECH, MTHE)
- Avoid **Negative Service Indicators** (SOLUS account, unpaid tuition). [Log on to SOLUS](#) to view your financial account to see if you have any outstanding debts. The University Registrar's Office can be reached at solus@queensu.ca about registration or payment.
- Respect deadlines to avoid difficulties (Add/Drop courses)

Course Planning

- Not all electives are offered every year. Plan both 3rd and 4th years together!
- You are not limited to '300' level technical elective courses.
- If you have prerequisites for a '400' level elective & it fits in your timetable, you can take it in your 3rd year
- Use the [Calendar Information](#) and the [ECE Planning Spreadsheets](#) to ensure you are on track to complete all requirements by the end of the fourth year. This is one of the most important responsibilities for all ECE students.

ECE Advisors: how we communicate with students



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UNDERGRADUATE STUDENT SUPPORT CONTACTS:

<https://eceadvisors.youcanbook.me/>



**SMITH
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**Electrical and
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