

ELECTRICAL ENGINEERING

CURRICULUM UPDATES

EECS DEPARTMENTAL POLICIES

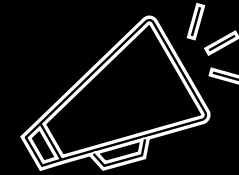
➤ **NEW:** Core Sequence:

EECS 1011 3.00, EECS 1021 3.00, PHYS 1800 3.00, PHYS 1801 3.00, EECS 2200 3.00 and EECS 2210 3.00 are core EECS BEng major courses and should be completed in the first 4 terms of study in order to progress.

➤ **NEW:** E/F/G/H/I/V/X/Y/Z Sections:

LE/EECS courses must be completed in sections **E/F/G/H/I/V/X/Y/Z**. Exceptions:

- EECS 1028 3.00 may be completed in any section.
- If an upper year technical elective course is offered in an **E/F/G/H/I/V/X/Y/Z** section, the course should be completed in one of these sections. If the course is not offered in an **E/F/G/H/I/V/X/Y/Z** section, *any* section may be taken.
- **For Electrical Engineering**, most List B technical electives are not offered in **E/F/G/H/I/V/X/Y/Z** sections, therefore List B technical electives may be completed in any section.



Know before you enrol
1.0

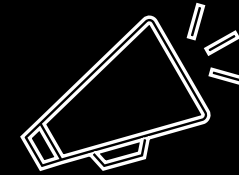
EECS DEPARTMENTAL POLICIES

➤ 4.50 EECS GPA Pre-requisite:

Most 2000-, 3000-, and 4000-level EECS courses require a cumulative GPA of 4.50 or better over all EECS major courses in addition to other course-specific prerequisites. Note: "Major" courses are all EECS courses with second digit other than 5 and include LE/EECS 1028 3.00 (cross-listed to: SC/MATH 1028 3.00) and LE/EECS 1019 3.00 (cross-listed to: SC/MATH 1019 3.00).

➤ Course Limits:

To ensure students can get access to the EECS courses they need and to ensure that students' course loads are reasonable, students are ordinarily restricted to taking at most four EECS courses per term. If the student is in their last semester (F,W,S) and can graduate with an extra course then EECS will permit enrolment in the additional course, space permitting. If the student has an OCGPA ≥ 7 and is not graduating, EECS will allow an extra course, space permitting. Because of limited course availability in Summer terms, effective Summer 2022 the limit is now reduced to two.



Know before you enrol
2.0

EECS DEPARTMENTAL POLICIES

› Enrollment:

Leading up to and at the beginning of each term, the EECS department checks pre-requisites and de-enrolls students who do not satisfy them to make space for students who do. This means we must freeze all enrollments in EECS courses a few weeks before the beginning of the term (so that de-enrolled students do not re-enroll themselves). An unfortunate side-effect of this freezing is that you are not able to transfer between sections or labs of a course. So:

- Enroll in your EECS courses early;
- Choose the section and lab you want before enrolments are frozen; and
- Carefully check that you satisfy the pre-requisites for your courses.
- If an EECS course is full, continue trying to add the course via REM, in case spaces become available.

› Reserved Spaces:

Engineering students, in most cases, cannot enroll for their major courses in A/B/C/M/N/O sections and will get a “course is reserved” message if they try. Most, if not all, seats in **E/F/G/H/I/V/X/Y/Z** sections are reserved for BEng students and if you have difficulty enrolling in these courses, you should [contact the EECS undergraduate office](#).

› Waiting List:

If you are unable to enroll in an EECS course, visit the [EECS Department “Announcements” web page](#) a few weeks before the beginning of the term to enter a waiting list request. The department will do its best to ensure that the students who need a course to make progress towards their degree get access to that course.



Troubleshooting **1.0**

EECS DEPARTMENTAL POLICIES

➤ What to do if your EECS GPA falls below 4.50:

- Identify the issues that caused you to receive a grade below the minimum 4.50 (C to C+) threshold.
- Do you need to improve your study skills? Explore “[GPA Requirements and Additional Support](#)”.
- Repeat EECS courses where your grades are low (especially courses where you earned a grade lower than C).
- Use resources available in your courses: ask TAs questions in labs, go to instructors' office hours for extra help, make use of supplementary readings or course resources, etc.
- If you are unsure about what courses you should repeat, [connect with an Academic Advisor](#).



Troubleshooting **2.0**

New Technical Electives (Approved, but not in Academic Calendar copy): Students are required to complete science electives and upper year technical electives. Students are permitted to choose courses from newer Academic Calendar lists. This does not change the credit requirement within the Academic Calendar you are following but allows for greater choice in course selection. For example, students following an older Calendar can choose from the updated list of technical electives appearing in the new 2025-2026 Academic Calendar for their program.

At least **37 credits of Electrical Engineering electives from List A & B** as follows:

Complete **a minimum of 16 credits from the following:**

Earned at least 16 credits from the following:

Electronics

LE/EECS3611 - Analog Electronics (4.00)
LE/EECS4612 - Digital VLSI (4.00)

Biomedical

LE/EECS3640 - Introduction to Biomedical Engineering (4.00)
LE/EECS3641 - Introduction to Medical Devices and Biological Instruments (4.00)

Power

LE/EECS3603 - Electromechanical Energy Conversion (4.00)
LE/EECS3623 - Power System Analysis (4.00) – NEW COURSE

Communications & Signal Processing

LE/EECS4214 - Digital Communication (4.00)
LE/EECS3601 - Probability & random processes for EE (4.00)

Complete an **additional 21 credits from List A or B including at least 12 additional credits from List A:**

LE - Electrical Engineering - List A Electives

LE/EECS2025 - Engineering Mathematics (4.00) – NEW COURSE
LE/EECS3216 - Digital Systems Engineering: Modeling, Implementation and Validation (3.00)
LE/EECS3601 - Probability and Stochastic Processes in Communications and Signal Processing (4.00)
LE/EECS3603 - Electromechanical Energy Conversion (4.00)
LE/EECS3610 - Semiconductor Physics and Devices (4.00)
LE/EECS3611 - Analog Electronics (4.00)
LE/EECS3612 - Introduction to Sensors and Measurement Instruments (4.00)
LE/EECS 3623 - Power System Analysis (4.00) – NEW COURSE
LE/EECS3640 - Introduction to Biomedical Engineering (4.00)
LE/EECS3641 - Introduction to Medical Devices and Biological Instruments (4.00)
LE/EECS4202 - Introduction to Neuromorphic Computing from Principle to Hardware Design (3.00) – NEW COURSE
LE/EECS4214 - Digital Communications (4.00)
LE/EECS4610 - Microfabrication Processing Technology (3.00)
LE/EECS4611 - Analog Integrated Circuit Design (4.00)
LE/EECS4612 - Digital Very Large-Scale Integration (4.00)
LE/EECS4613 - Power Electronics (4.00)
LE/EECS4614 - Electro-Optics (4.00)
LE/EECS4621 - Advanced Power Electronic Applications (4.00)
LE/EECS4622 - Introduction to Energy Systems (4.00)
LE/EECS4623 - Renewable Energy Systems (4.00)
LE/EECS 4626 - High Voltage Engineering (4.00) – NEW COURSE
LE/EECS 4627 - Power System Protection (3.00) – NEW COURSE
LE/EECS4640 - Medical Imaging Techniques: Principles and Applications (3.00)
LE/EECS4642 - Medical Imaging Systems (4.00)
LE/EECS4643 - Biomedical Signal Analysis (4.00)
LE/EECS 4646 - Electric Vehicles (4.00) – NEW COURSE

LE - Electrical Engineering - List B Electives

LE/EECS3213 - Communication Networks (3.00)
LE/EECS3214 - Computer Network Protocols and Applications (3.00)
LE/EECS3221 - Operating System Fundamentals (3.00)
LE/EECS 3405 Fundamentals of Machine Learning (3.00)
LE/EECS4201 - Computer Architecture (3.00)
LE/EECS4210 - Architecture and Hardware for Digital Signal Processing (3.00)
LE/EECS4215 - Mobile Communications (3.00)
LE/EECS4221 - Operating System Design (3.00)
LE/EECS4352 - Real-Time Systems Practice (3.00)
LE/EECS 4405 - Advanced Machine Learning (3.00)
LE/EECS4413 - Building E-Commerce Systems (3.00)
LE/EECS4421 - Introduction to Robotics (3.00)
LE/EECS4422 - Computer Vision (3.00)
LE/EECS4452 - Digital Signal Processing: Theory and Applications (3.00)
LE/EECS4471 - Introduction to Virtual Reality (3.00)
LE/ENG 4650 - Feedback Control Systems (3.00)

ELECTRICAL ENGINEERING

RECAP

Title Change:

EECS 3604 Applied Electromagnetism (formerly Electromagnetic Theory and Wave Propagation)

Title and Credit Changes:

EECS 3601 Probability and Stochastic Processes in Communications and Signal Processing is now 4.00 credits (formerly Probability and Stochastic Processes for Electrical Engineers 3.00)

Credit Changes:

EECS 4640 Medical Imaging Techniques: Principles and Applications is now 4.00 credits (formerly 3.00)

Course Substitution:

Students following an Academic Calendar requiring ENG 4550 3.00 may complete EECS 3452 3.00 instead.

Science and Technical Electives:

Students are required to complete science electives and upper year technical electives. Students are permitted to choose courses from newer Academic Calendar lists. This does not change the credit requirement within the Academic Calendar you are following but allows for greater choice in course selection. For example, students following an older Calendar can choose from the **updated list of technical electives** appearing in the new 2025-2026 Academic Calendar for their program.

ELECTRICAL ENGINEERING

RECAP

EECS 3602 4.00:

EECS 3602 4.00 is retired and will not be offered again. Students following the 2019-2020 Academic Calendar or prior requiring EECS 3602 4.00 can complete any List A or List B Technical Elective in lieu of EECS 3602 4.00. The replacement course must be completed in an Engineering section.

Replacement:

EECS 2602 4.00 is now EECS 3451 4.00. Students following an Electrical Engineering Academic Calendar that requires EECS 2602 4.00 who have yet to complete it will now take EECS 3451 4.00 instead. Since EECS 3602 4.00 lists EECS 3451 4.00 as a course credit exclusion, an additional technical elective from Group A/List A must be taken in lieu of EECS 3602 4.00 for students completing EECS 3451 4.00.

Replacement:

EECS 4622 4.00 is now EECS 3622 4.00 and will still count as a List A Electrical Engineering technical elective for 2019-2020 Academic Calendars and older.

Replacement:

EECS 4641 4.00 is now EECS 3641 4.00 and will still count as a List A Electrical Engineering technical elective for 2019-2020 Academic Calendars and older.

ELECTRICAL ENGINEERING

RECAP

Addition to List B Technical Electives: ENG 4650 3.00 will now be an option as a List B technical elective.

Correction to upper year technical elective requirement:

Previously, Electrical Engineering degree requirements stated that 28.00 technical elective credits were required when in fact, 31.00 credits are required.

Pending confirmation of the correction by Senate, please be advised of the error in the printed copy of the degree requirements for Electrical Engineering and understand that the actual requirements for students following the **2018-2019 or 2019-2020 Academic Calendars are 31.00 technical elective credits**.

Of these 31.00 credits, at least 19.00 credits need to be from List A with the credits from both Lists A and B totaling at least 31.00. The online copy of the Academic Calendar has been updated and includes the note pending Senate approval.

As per December 13, 2019, December 19, 2019, and January 20, 2020 e-mail campaigns.

Replacement: EECS 2032 4.00 will be required instead of EECS 2031 3.00. Note that EECS 2032 4.00 lists EECS 2030 3.00 as a co-requisite. Electrical Engineering students are not required to complete EECS 2030 3.00 as a co-requisite.

Replacement: EECS 3216 3.00 will be required instead of EECS 3215 4.00.

TRANSFERS TO COMPUTER SCIENCE OR COMPUTER SECURITY

RECAP	
If transferring <i>from</i> Engineering to Computer Science or Computer Security:	
If you successfully completed this course while in Engineering:	You are exempt from this course for Computer Science or Computer Security:
EECS 1011 3.00	EECS 1012 3.00 (or EECS 1015 3.00 if pursuing Computer Science)*
EECS 1021 3.00	EECS 1022 3.00*
EECS 1028 3.00	EECS 1019 3.00
EECS 2032 3.00	EECS 2031 3.00*
EECS 3216 3.00	EECS 3215 4.00*
PHYS 1800 3.00, PHYS 1801 3.00, and/or CHEM 1100 4.00	Count toward 6.00 credit foundational science lab requirement for BSc/iBSc
ENG 2003 3.00, ENG 3000 3.0, and/or MECH 2112 3.00	Count toward 12.00 credit non-science requirement for BSc/iBSc
<i>*These exemptions do not work in reverse. For example, if you successfully completed EECS 1012 3.00 and/or 1015 3.00 and/or EECS 1022 3.00 while in Computer Science or Computer Security and then subsequently change your program to Engineering, you must still successfully complete EECS 1011 3.00 and EECS 1021 3.00 for Engineering.</i>	