



DEPARTMENT OF
**ELECTRICAL &
COMPUTER ENGINEERING**

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New Electrical Engineering Curriculum

Starting Fall 2024

The Electrical Engineering program will be undergoing some curriculum changes starting in Fall 2024. These changes will reduce the number of 300-level courses and increase the number of 400-level ENEE electives students can take, allowing for more flexibility in advanced topics. In addition, a new ENEE math course will be required for both Electrical and Computer Engineering students beginning in Fall 2024.

Students who are currently enrolled in Electrical Engineering will have the opportunity to switch to the new curriculum, or continue in their current program with either the old or new courses. They will notify their academic advisor about which path they want to take, and the advisor will update their record accordingly.

New Curriculum Courses Currently Offered

Students have an opportunity to preview these new courses and apply them to their current degree requirements. These courses will be required for new students starting in Fall 2024.

ENEE290: Introduction to Differential Equations and Linear Algebra for Engineers

4 credits

- A combination of MATH246 (Differential Equations) and MATH240/461 (Linear Algebra)
- Linear algebra has been missing as a requirement for ECE students and is an essential topic. This course ensures students will get exposure to linear algebra early on, and will help prepare students better for ENEE222 and ENEE322
- **ENEE290 will replace the MATH246 requirement.** Students taking MATH290 will not be able to use MATH461 as their 400-level MATH course due to content overlap.
 - Note: Students who intend to pursue a double major or minor in Mathematics, or who intend to take advanced math courses that require MATH461, should take MATH461 and MATH246 for the ENEE290 requirement. Contact your advisor for more information.

ENEE304: Introduction to Micro and Nanoelectronics

3 credits

- Will replace ENEE303 (Electromagnetic Wave Propagation) and ENEE313 (Introduction to Device Physics) as ENEE304 is a combination of both courses
- Covers topics in circuits and devices

ENEE382: Electromagnetics

4 credits

- Will replace ENEE380 (Electromagnetic Theory) and ENEE381 (Electromagnetic Wave Propagation) as ENEE382 is a combination of both courses
- Covers topics in statics and waves

New Curriculum Courses Starting Fall 2024 and Spring 2025

New students starting in Fall 2024 and beyond will be required to take these courses:

ENEE305: Introduction to Micro and Nanoelectronics Laboratory

2 credits

- Will replace ENEE307 (Electronic Circuits Design Laboratory)
- Will be first offered starting in Spring 2025 as it has ENEE304 as a prerequisite

ENEE323: Signals and Systems- Theory and Applications

4 credits

- Adds a 1-credit lab to ENEE322, making ENEE323 a 4-credit course
- Will be first offered starting in Fall 2024 (one small section)
- Computer Engineering students will still be able to take ENEE322 for their major requirements

Other Changes

- Linear algebra will no longer be covered in ENEE222 (Elements of Discrete Signal Analysis).
- The EE Technical Elective credits will increase to 22 credits. Students will be offered more flexibility to count up to 7 credits from relevant non-ENEE courses. A list of courses will be provided.
- The number of General Technical Elective (GenTech) credits is reduced from 9 credits to 3 credits.

Course Offerings Transition Plan Timeline

Course	Fall 2024	Spring 2025	Fall 2025
ENEE290 (new)	Yes	Yes	Yes
ENEE303 (old)	Yes	No	No
ENEE304 (new)	Yes	Yes	Yes
ENEE305 (new)	No	Yes	Yes
ENEE307 (old)	Yes	No	No
ENEE313 (old)	No	Yes	No

ENEE322 (old)	Yes	Yes	Yes
ENEE323 (new)	Yes	Yes	Yes
ENEE350 (no change)	Yes	Yes	Yes
ENEE380 (old)	No	No	No
ENEE381 (old)	No	No	No
ENEE382 (new)	Yes	Yes	Yes

FAQs:

I want to stay in the current curriculum but take the new courses. How will I make up the credits since the old courses totaled 12 credits and the new courses total 7 credits?

Students who take ENEE304 will take an additional 3-credit 400-level ENEE course. Students who take ENEE382 will take an additional 2-3 credit 400-level ENEE course. Students can also take both ENEE304 and ENEE382, and take 5-6 credits of additional ENEE 400-level courses. The benefit of taking more 400-level courses is that students have more freedom to choose topics that interest them, and 400-level courses tend to be more applicable and hands-on than 300-levels.

Other questions about these courses or the new curriculum?

Please contact your assigned ECE academic advisor for clarification on any of the curriculum changes or courses listed above. You can also email ecadvise@umd.edu.

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