

2023-2024
Academic Year

Electrical and Computer Engineering, BS



ABET accredited

Course offerings subject to change

Major credits: 146 (not including GURs)

[Link to Course Catalog](#)

Admissions info - <https://engineeringdesign.wvu.edu/>

Academic advising available - see contact information below

Pre-major coursework in grey area

Courses in **BOLD** required to apply to full major

Fall

Winter

Spring

First
Year

MATH 124 (5) Calculus I

PHYS 161 (5) Physics w/ Calc I

CSCI 140 or 141 (4) Programm. Fundamen.

* ENGR 101 (2) Engineering, Design, Society

MATH 125 (5) Calculus II

PHYS 162 (5) Physics w/ Calc II

EECE 108 & 109 (2) Intro to Elect. & Comp

CHEM 161 (5) General Chemistry I

APPLY TO MAJOR

EECE 111 (4) Circuits Analysis I

MATH 204 (4) Linear Algebra

PHYS 163 (5) Physics w/ Calc III

Second
Year

MAJOR COURSES BEGIN

EECE 210 (4) Circuit Analysis II

EECE 233 (4) Digital Electronics

MATH 224 (5) Multivariable Calculus

EECE 220 (4) Electronics I

EECE 244 (4) Embedded Microcontrollers

MATH 331 (4) Differential Equations

EECE 310 (4) Continuous Systems

EECE 320 (4) Electronics II

EECE 346 (4) Probability & Stats for EECE

Third
Year

EECE 311 (4) Discrete Systems

EECE 344 (4) Embedded Microcontrollers II

EECE 360 (4) Communication Systems

EECE 444 (4) Embedded Systems

Concentration Courses (see back)

EECE 401 (1) Capstone Project Introduction

EECE 480 (4) Control Systems

ENG 302 (WP) Technical Writing

Fourth
Year

EECE 402 (3) Capstone Project II

EECE 403 (3) Capstone Project III

EECE 404 (3) Capstone Project IV

Technical Electives and Additional Higher Level EECE Electives (see back)

Engineering & Design

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<http://engineeringdesign.wvu.edu>

Pre-major Advisor:

Lisa Ochs

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NOTES & EXCEPTIONS

Students not enrolled in MATH 124 and PHYS 161 fall quarter may not finish in four years. MATH 341/345/346 may be substituted for EECE 346. All count toward math minor.

Students must complete General University Requirements in addition to major courses.

* ENGR 101 is optional but recommended.

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Concentration Courses (12 credits)

Students must take three courses within a single concentration, with one course typically taken in each quarter of the third year. These three courses meet 12 of the required 20 credits of Higher Level EECE Electives, leaving 8 remaining credits of Higher Level EECE Electives for students to choose.

Concentration	Fall 3rd Year	Winter 3rd Year	Spring 3rd Year
AI and ML	EECE 384 (4) AI and Reinforcement Learning	EECE 383 (4) Machine Learning for Engineers	EECE 385 (4) Cyber-Physical Systems
Electronics	EECE 333 (4) Digital System Design	EECE 321 (4) Electronic Systems	EECE 361 (4) Signal Propagation
Energy	EECE 372 (4) Elec Power & Electromech. Dev.	EECE 374 (4) Energy Processing	EECE 378 (4) Pwr Sys Analysis & Smart Grid
Wireless & Signals	EECE 362 (4) Wireless Networking	EECE 433 (4) Digital Signal Processing	EECE 460 (4) Digital Communication Sys

Higher Level EECE Electives (8 additional credits, 20 total)

In addition to the 12 concentration-specific higher level EECE electives above, students must complete 8 additional credits of higher level EECE electives for a total of 20 credits. Courses which may be used to fulfill this requirement include EECE 321, 333, 361, 362, 372, 374, 378, 383, 384, 385, 433, 460.

Technical Electives (10 credits)

Students must also complete 10 credits of tech electives. Note that all courses in the Higher Level EECE Elective category are also in the Technical Elective category, however a course cannot be double-counted to meet both requirements. Popular choices of Technical Electives include additional Higher Level EECE Electives, EECE 495 Directed Research, as well as MATH and CSCI courses. [Link to complete list of approved technical electives.](#)

GURs

The QSR, LSCI, SCI, and writing proficiency requirements are satisfied by required EECE program courses. Additional courses must be taken with the ACOM, BCOM/CCOM, HUM, SSC, ACGM, and BCGM attributes, which typically requires 10 additional courses and at least 38 additional credits. For GUR-related advising, students should visit the Academic Advising Center in OM380, or at <https://advising.wvu.edu/>

Faculty Contact Information

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