

2023-2024 Catalog

Electrical Engineering

Bachelor of Science
Academic Department
Physics and Engineering

Note: Students earning this degree will follow the [31-hour core curriculum for Engineering/Physics BS students](#).

Total Credits 96

Major Coursework			
Item #	Course Title		Credits
☐ ENGR 1300	Introduction to Engineering		3
☐ ENGR 1100	Intro to Engineering Lab	ENGR 1100 Prerequisite: ENGR 1300	1
☐ ENGR 2100	Introduction to Engineering Design	ENGR 2100 Prerequisites: ENGR 1300, 1100	1
☐ PHYS 2333	University Physics I	PHYS 2333 Corequisites: PHYS 2111, MATH 1431	3
☐ PHYS 2111	University Physics I Laboratory	PHYS 2111 Corequisite: PHYS 2333	1
☐ PHYS 2334	University Physics II	PHYS 2334 Prerequisite: PHYS 2333; Pre/Corequisite: MATH 1432.	3
☐ PHYS 2112	University Physics II Lab	PHYS 2112 Corequisite: PHYS 2334	1
☐ ENGR 2410	Digital Design	ENGR 2410 Prerequisite: PHYS 2334/2112	4
☐ PHYS 3337	Modern Physics	PHYS 3337 Prerequisites: PHYS 2334/2112; Corequisites: PHYS 3137.	3
☐ PHYS 3137	Modern Physics Laboratory	PHYS 3137 Prerequisites: PHYS 2334/2112; Corequisite: PHYS 3337	1
☐ ENGR 3333	Electrical Circuits I	ENGR/PHYS 3333 Prerequisites: PHYS 2334 or Instructor Permission	3
☐ ENGR 3133	Electrical Circuits Lab	ENGR/PHYS 3133 Prerequisites: PHYS 2334, 2112. Corequisite: ENGR/PHYS 3333.	1
☐ ENGR 3346	Electrical Circuits II	ENGR/PHYS 3346 Prerequisites: PHYS/ENGR 3333 or instructor permission.	3
☐ ENGR 3330	Electronics I	ENGR 3336 Prerequisites: ENGR 3333, 3133.	3
☐ ENGR 3331	Electronics II	ENGR 3331 Corequisites: ENGR 3131. Prerequisites: ENGR 3330.	3
☐ ENGR 3131	Advanced Electronics Laboratory	ENGR 3131 Corequisite: ENGR 3331. Prerequisite: ENGR 3330.	1

☐	ENGR 3343	Mathematical Methods for Physics and Engineering	ENGR 3343 Prerequisites: PHYS 2334, MATH 1432	3
☐	ENGR 3334	Microprocessors	ENGR 3334 Prerequisites: ENGR 2410, ENGR 3330	3
☐	ENGR 3336	Robotics	ENGR 3336 Prerequisites: ENGR 3333, 3133.	3
☐	ENGR 3340	Signals and Systems	ENGR 3340 Prerequisites: ENGR 3330, 3133	3
☐	ENGR 3344	Digital Signal Processing	ENGR 3344 Prerequisites: ENGR 3340	3
☐	ENGR 3130	Junior/Senior Seminar in Physics and Engineering	ENGR 3130 Prerequisites: PHYS 2334, 2112; Junior or Senior Standing.	1
☐	ENGR 4140	Electrical Machines	ENGR 4140 Prerequisites: PHYS 2333, 2334, and ENGR 3333	1
☐	ENGR 4312	Engineering Communications	ENGR 4312 Prerequisites: ENGR 3333, Junior or Senior Standing	3
☐	PHYS 4333	Electromagnetism	ENGR/PHYS 4333 Prerequisites: PHYS 3333 or Instructor Permission.	3
☐	ENGR 4341	Electrical Power Systems	ENGR 4341 Prerequisites: PHYS 2333, 2334; ENGR 4140	3
☐	ENGR 4340	Wireless Communications	ENGR 4340 Prerequisites: ENGR 3340	3
☐	ENGR 4343	Computational Methods for Engineering	PHYS/ENGR 4343 Prerequisites: PHYS 3337, ENGR/PHYS 3343, or instructor permission.	3
☐	ENGR 4364	Fundamentals of Nanotechnology	ENGR 4364 Prerequisites: ENGR/PHYS 3337; Junior-level standing.	3
☐	ENGR 4446	Control Systems and Automation	ENGR 4446 Prerequisites: ENGR 3336	4
☐	ENGR 4344	Electrical Engineering Capstone	ENGR 4344 Prerequisites: ENGR 3331, ENGR 3131, Senior Standing	3
☐	ENGR 4144	Electrical Engineering Capstone Laboratory	ENGR 4144 Prerequisites: ENGR 4344, Senior Standing	1

ENGR/PHYS Electives

Complete 6hrs of ENGR/PHYS elective courses. Consult with academic advisor regarding options.

Mathematics

Must take in order.

Item #	Course Title		Credits
☐ MATH 1431	Calculus I	MATH 1431 Prerequisite: MATH 1430 or department consent.	4
☐ MATH 1432	Calculus II	MATH 1432 Prerequisite: Grade of 'C' or Better in MATH 1431	4
☐ MATH 2431	Calculus III	MATH 2431 Prerequisite: MATH 1432 with a grade of "C" or better	4