

INTEGRATED DESIGN ENGINEERING *Electrical Emphasis— FALL 2023*

1	APPM 1350 (4) Calculus 1 For Engineers	Example COURSE NUMBER (Cr.) Course Name (PR: Pre-Requisites) (CR: Co-Requisites) (Spring or Fall Only Course)	ECEN 1400 (3) Intro to Digital & Analog Electronics	PHYS 1110 (4) General Physics 1 (CR: APPM 1350)	Humanities & Social Science (3)	
2	APPM 1360 (4) Calculus 2 For Engineers (PR: APPM 1350)		CSCI 1300 (4) Computer Science 1: Starting Computing (CR: APPM 1235 or 1350)	PHYS 1120 (4) General Physics 2 (PR: PHYS 1110) (CR: APPM 1360)	PHYS 1140 (1) Experimental Physics (CR: PHYS 1120)	Writing Requirement(3)
3	APPM 2360 (4) Linear Algebra & Differential Equations (PR: APPM 1360)	GEEN 2400 (3) Engineering Projects for the Community (PR: GEEN 1400)	GEEN 2851 (3) Statics & Structures (PR: APPM 1360, PHYS 1110)	Science Electives (5) See Page 2 for Options		Humanities & Social Science (3)
4	APPM 2350 (4) Calculus 3 For Engineers (PR: APPM 1360)		GEEN 3024 (3) Materials Science for Engineers (PR: PHYS 1110)	ECEN 2250 (3) Intro to Circuits & Electronics (PR: APPM 1360, PHYS 1120) (CR: APPM 2360)	ECEN 2350 (3) Digital Logic (CR: CSCI1300)	Humanities & Social Science (3)
5	Concentration Course (3)	GEEN 3400 (3) Invention & Innovation (RPR: GEEN 1400)	GEEN 3852 (3) Thermodynamics (PR: PHYS 1110)	ECEN 2260 (3) Circuits as Systems (PR: ECEN 2250, APPM 2360)	ECEN 2270 (3) Electronics Design Lab (CR: ECEN 2260)	ECEN Elective 1 (3) See Page 2 for Options
6	Concentration Course (3)	Free Elective (3)	GEEN 3853(4) Data Analysis for Engineers (PR: APPM 2360, Computing, PHYS 1140) (CR: GEEN 3010, Writing) GEEN 3024, Spring Only	ECEN Elective 2 (3) See Page 2 for Options	ECEN Elective 3 (3) See Page 2 for Options	
7	Concentration Course (3)		Free Elective or Concentration Course (3)	Free Elective (3)	ECEN 4610 (3) Capstone Lab Part 1 (See Page 2 for requisites) Fall Only	Humanities & Social Science (3) Upper Division
8	Concentration Course (3)		Free Elective or Concentration Course (3)	Free Elective (3)	ECEN 4620 (3) Capstone Lab Part 2 (PR: ECEN 4610) Spring Only	Humanities & Social Science (3) Upper Division

Integrated Design Engineering Curriculum

Electrical Engineering Emphasis

Standard Course Substitutions

- **APPM 1350:** APPM 1345, MATH 1300
- **APPM 1360:** MATH 2300
- **APPM 2350:** MATH 2400
- **APPM 2360:** MATH 2130 and MATH 3430, MATH 2135 and MATH 3430
- **CSCI 1300:** ASEN 1320, CSCI 1320 , ECEN 1310
- **ECEN 1400:** GEEN 1400, ASEN 1400, ASEN 1403
- **GEEN 2851:** CVEN 2121, MCEN 2023
- **GEEN 3024:** MCEN 2024
- **GEEN 3852:** AREN 2110, MCEN 3012
- **GEEN 3853:** CVEN 3227, MCEN 3047

Science Elective with Lab Options

- CHEN 1201 and CHEM 1114
- CHEN 1201 and CHEN 1203 and CHEM 1221
- CHEN 1211 and CHEM 1221
- CHEM 1113 and CHEM 1114 (approved for transfer students)
- EBIO 1210 an EBIO 1230
- EBIO 1220 and EBIO 1240
- MCDB 1150 and MCDB 1161 or MCDB 1171
- MCDB 2150 and MCDB 2161 or MCB 2171

Electrical Engineering Design Lab Electives Options (pick 3)

- ECEN 2370
- ECEN 3250
- ECEN 3300
- ECEN 2360 (formerly ECEN 3350)
- ECEN 3400

ECEN 4610 Requisites

- Pre-requisites:
 - ECEN 2270
 - Three Design Lab Electives above

Humanities & Social Science Electives/Writing Requirements

Visit the college's [Humanities, Social Sciences, and Writing Requirements](#) webpage for options.

Grade Requirements

The minimum passing grade for a prerequisite or co-requisite course within the Electrical Engineering Emphasis is a **C-**. This requirement includes courses completed in another program or department (APPM, PHYS, etc.). The minimum grade for all Concentration courses is also a **C-**. The minimum passing grade for standalone classes is a **D-**. In addition, students need to have a cumulative and major GPA of at least 2.000 in order to graduate from the College of Engineering. **Pass/Fail** is only permitted for up to 6 Free Elective credits.