INTEGRATED DESIGN ENGINEERING *Electrical Emphasis*– *FALL 2024*

Example

COURSE NUMBER (Cr.)
Course Name
(PR: Pre-Requisites)
(CR: Co-Requisites)
(Spring or Fall Only Course)

1	**APPM 1350 (4)** Calculus 1 For Engineers		**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)	**Math or 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 (4)** Digital Logic (CR: CSCI 1300)	**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 (2)**	**GEEN 3853(4)** Data Analysis for Engineers (PR: APPM 2360, Computing, PHYS 1140) (CR: GEEN 3010, Writing) Spring Only	**Emphasis Elective 2 (3)** See Page 2 for Options	**Emphasis Elective 3 (3)** See Page 2 for Options	
7	**Concentration Course (3)**		**Free Elective (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 (3)**	**Free Elective (3)**	**ECEN 4620 (3)** Capstone Lab Part 2 (PR: ECEN 4610) Spring Only	**Humanities & Social Science (3)** Upper Division

Effective: Fall 2024

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, ASEN 2001/2701/2401
- **GEEN 3024:** MCEN 2024
- **GEEN 3852:** AREN 2110, MCEN 3012, ASEN 2002/2707/2402
- **GEEN 3853:** CVEN 3227, MCEN 3047

Math or Science Electives

- Must reach 30 total math/science credits
- Visit the IDE Advising webpage for options.

Humanities & Social Science Electives/Writing Requirements

- Visit the college's Humanities, Social Sciences, and Writing Requirements webpage for options.

Concentration

IDE majors are required to officially declare a Concentration by the end of their second year at the latest. Students who transfer into the IDE major after their second year must declare a Concentration by the end of their first semester in IDE. Students who have not declared a Concentration before those deadlines will receive a hold on their registration until they declare. Students can initiate the declaration process by emailing or meeting with an IDE Academic Advisor.

Electrical Engineering Design Lab Electives Options (Choose 3)

- ECEN 2360: Programming Digital Systems (formerly ECEN 3350)- PR:ECEN 2350
- ECEN 2370: Embedded Software Engineering- PR: ECEN 1310, ECEN 2350; CR: ECEN 2360 or CSCI 2400
- ECEN 3250: Microelectronics- PR: ECEN 2250
- ECEN 3300: Linear Systems- PR: ECEN 2260
- ECEN 3400: Electromagnetic Fields & Waves- PR: APPM 2350, APPM 2360, PHYS 1120, & ECEN 2250

ECEN 4610 Pre-Requisites

- ECEN 2260: Circuits as Systems
- ECEN 2270: Electronics Design Lab
- Three Design Lab Electives above
- GEEN 2400: Projects for the Community
- GEEN 3400: Invention & Innovation

Grade Requirements

The minimum passing grade for a course that is a prerequisite or corequisite for another required course is a C-. If a grade of D+ or lower is received in a course which is a prerequisite to another, the student may not register for the subsequent course until the first grade has been raised to a C- or higher. If a grade of D+ or lower is received in a course which is a corequisite to another, the course must be repeated until a grade of C- or higher is achieved.

The minimum passing grade for all required engineering core, disciplinary emphasis, and concentration courses is a C-. The minimum passing grade for a course that is not specifically a prerequisite or corequisite for another required course is D-, if not otherwise noted above.

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.

Updated: January 2024

Helpful Links

- IDE Emphasis Areas
- IDE Concentrations
- IDE Core Courses
- IDE Projects
- FE Exam

- H&SS Requirements
- CEAS Forms (including Petition, Incomplete Grade, and Independent Study)
- Study Abroad