

INTEGRATED DESIGN ENGINEERING *Architectural Emphasis* – FALL 2026

Example

1

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

APPM 1350 (4)
 Calculus 1 For Engineers

PHYS 1110 (4)
 General Physics 1
 (CR: APPM 1350)

GEEN 1400 (3)
 Engineering Projects

COEN 1500 (1)
 First-Year Seminar

Humanities & Social Science (2)

2

APPM 1360 (4)
 Calculus 2 For Engineers
 (PR: APPM 1350)

PHYS 1120 (4)
 General Physics 2
 (PR: PHYS 1110)

PHYS 1140 (1)
 Experimental Physics
 (CR: PHYS 1120)

AREN 1027 (3)
 Engineering Drawing

Writing Requirement(3)

3

APPM 2350 (4)
 Calculus 3 For Engineers
 (PR: APPM 1360)

CSCI 1200 (3)
 Intro to Computational Thinking
 Fall Only

GEEN 2851 (3)
 Statics & Structures
 (PR: APPM 1360, PHYS 1110)

AREN 2050 (3)
 Building Materials and Systems
 Fall Only

Humanities & Social Science (3)

4

APPM 2360 (4)
 Linear Algebra & Differential Equations
 (PR: APPM 1360)

CHEN 1201 (4)
 General Chemistry for Engineers 1
 (PR: 1 yr. HS Chemistry or CHEM 1021, HS Algebra)

GEEN 2400 (3)
 Engineering Projects for the Community
 (PR: GEEN 1400)

CVEN 3161 (3)
 Mechanics of Materials I
 (PR: GEEN 2851, CR: APPM 2360)

Humanities & Social Science (3)

5

Concentration Course (3)

Free Elective (3)

GEEN 3400 (3)
 Invention & Innovation
 (PR 57 credits)

GEEN 3852 (3)
 Thermodynamics
 (PR: PHYS 1110)

Focus Area Course 1 (3)
 See Page 2 for options

Humanities & Social Science (3)
 Upper Division

6

Concentration Course (3)

Free Elective (3)

GEEN 3010 (3)
 Circuits for Engineers
 (PR: PHYS 1120)
 (CR: APPM 2360)
 Spring Only

Emphasis Elective 1 (3)
 See Page 2 for options

Focus Area Course 2 (3)
 See Page 2 for options

Math or Science Elective (1)
 See Page 2 for Options

7

Concentration Course (3)

Free Elective (3)

Free Elective (3)

AREN 4318 (5)
 AREN Design 1
 See page 2 for requisites
 Fall Only

Humanities & Social Science (3)
 Upper Division

8

Concentration Course (3)

Free Elective (3)

GEEN 3853(4)
 Data Analysis for Engineers
 (PR: APPM 2360, Computing, PHYS 1140)
 (CR: GEEN 3010, Writing, 3024)
 Spring Only

Emphasis Elective 2 (3)
 See Page 2 for options

AREN 4319 (2)
 AREN Design 2
 (PR: AREN 4318, AREN 4080)
 Spring Only

Integrated Design Engineering Curriculum

Architectural 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
- **AREN 1027: NONE** (CVEN 1027 or GEEN 1017 would need to be petitioned if completed)
- **CHEN 1201:** CHEN 1113, CHEN 1211, MCEN 1024, ASEN 1022
- **CSCI 1200:** ASEN 1030, CSCI 1300, CHEN 1310, ECEN 1310, MCEN 1030
- **CVEN 3161:** MCEN 2063
- **GEEN 1400:** ASEN 1400, ASEN 1403, ECEN 1400
- **GEEN 2851:** CVEN 2121, MCEN 2023, ASEN 2401
- **GEEN 3010:** ECEN 3010, AREN 3040, ASEN 3503, MCEN 3017
- **GEEN 3852:** AREN 2110, MCEN 3012, ASEN 2402, EVEN 3012
- **GEEN 3853:** CVEN 3227, MCEN 3047

Focus Area Courses (choose one focus area and complete the options listed):

CONSTRUCTION: must complete two courses

- CVEN 3246: Introduction to Construction (PR: 57+ credits)
- AREN 4506: Pre-construction Estimating and Scheduling (PR: CVEN 3246, 57+ credits)

LIGHTING/ELECTRICAL SYSTEMS: must complete two courses

- AREN 3540: Illumination I (PR: Computing and Calculus 3) (Fall only, starting fall 2027)
- One of the following:
 - AREN 4550: Illumination II (PR: AREN 3540) (Spring only, starting spring 2027)
 - AREN 4570: Building Electrical Systems Design I (PR: GEEN 3010) (Spring only, starting spring 2027)

MECHANICAL SYSTEMS: must complete three courses (and 3 less free elective credits)

- AREN 2120: Fluid Mechanics and Heat Transfer (PR: Thermodynamics, CR: Calculus 3 and APPM 2360; spring only)
- AREN 3010: Energy Efficient Buildings (PR: AREN 2120; fall only)
- AREN 4110: HVAC System Design (spring only)

STRUCTURAL SYSTEMS: must complete two courses

- CVEN 3525: Structural Analysis (PR: CVEN 3161)
- CVEN 4545: Steel Design (PR: CVEN 3525; spring only)
- CVEN 4555: Reinforced Concrete Design (PR: CVEN 3525; fall only)

AREN 4318 Requisites:

- GEEN 2400, 3400
- All focus area courses
- One of: CVEN 3246 or AREN 3540 or AREN 4570 or AREN 3010 or CVEN 3525.

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: May 2026

Math or Science Electives

- Must reach at least 30 total math & science credits.
- Visit the [IDE Foundational Courses](#) webpage for options.

Humanities & Social Science Electives/Writing Requirements

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

FE Exam

Completion of the [FE Exam](#) is required of all IDE students to graduate.

Emphasis Electives:

Elective 1 options (Pre-Requisite for AREN 4318)

- CVEN 3246: Introduction to Construction
- AREN 3540: Illumination I (PR: Computing and Calculus 3; spring only)
- AREN 3010: Energy Efficient Buildings (PR: AREN 2120; fall only)
- CVEN 3525: Structural Analysis (PR: CVEN 3161)
- AREN 3080: Arch. Design Studio 1 (PR: AREN 1027; spring only)

Elective 2 (can be taken at any time)

- CVEN 3246: Introduction to Construction
- AREN 3540: Illumination I (PR: Computing and Calculus 3; spring only)
- AREN 3010: Energy Efficient Buildings (PR: AREN 2120; fall only)
- CVEN 3525: Structural Analysis (PR: CVEN 3161)
- AREN 3080: Arch. Design Studio 1 (PR: AREN 1027; spring only)

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 declare their concentration using the college's [CEAS Add, Change, or Revise Engineering Major](#) form.

Helpful Links

- [Math or Science Electives](#)
- [IDE Emphasis Areas](#)
- [IDE Concentrations](#)
- [IDE Core Courses](#)
- [IDE Projects](#)
- [FE Exam](#)
- [H&SS Requirements](#)
- [CEAS Forms](#) (including Petition, Incomplete Grade, and Independent Study)
- [Declare/Change Your Concentration](#)
- [Study Abroad](#)