Construction Engineering Thrust Area (2022-2023)

Civil Engineering ATE (Approved Technical Elective) Advising Sheet

Each CE student is required to take 24 units of ATE (Approved Technical Electives). These electives can be any CE/ENVE 400/500 level coursework (not required as part of the major), some CE/ENVE 300 level coursework, or any one of a list of preapproved elective options from outside CE/ENVE. This freedom in the CE program allows students to specialize in a particular area (or two or three...) or develop a little deeper in all areas. Please consider your choices in the context of graduate school, the area in which you would like to practice, or the breadth of knowledge you would like to attain. Below is the Thrust Area for Construction Engineering (ConE) to consider as you plan your Senior Year.

NOTE: You may mix and match ATEs in any way you like that works best for you, and your schedule, and we encourage you to seek faculty advice to help map your final choices.

Students interested in Construction Engineering are strongly encouraged to meet specifically with Dr. Hani Alzraiee for guidance. As there is an incorporation of non-CE major courses, permissions will be needed to exceed the outside 4-unit major limiting requirement.

A. Construction Engineering Core Courses:
   1. CE 415 (4) - Advanced BIM for Civil Engineering
   2. CE 474 (2) - Environmental Compliance and Permitting
   3. CE 475 (4) - Civil Infrastructure and Building Systems
   4. CE 572 (4) - Engineering Project Management

B. Complementary Geotechnical, Structural, and Transportation Courses
   1. CE 429 (4) - Highway Pavement Designs
   2. CE 455 (4) - Design of Timber Structures
   3. CE 457 (4) - Bridge Engineering
   4. CE 481 (4) - Analysis and Design of Shallow Foundations
   5. CE 488 (4) - Engineering Risk Analysis
   6. CE 559 (4) – Prestressed Concrete Design

C. Recommended Courses Outside the CE Department:
   1. CM 310 (4) - Construction Means and Methods
   2. CM 475 (4) - Real Property Development Principles
   3. BRAE 447 (4) - Advanced Surveying with GIS Applications.

Notes:

I. Refer to the Courses Catalog for the course description: https://catalog.calpoly.edu/coursesaz/ce/
II. Check the Office of the Register website to see when a course is typically offered. https://registrar.calpoly.edu/term-typically-offered
III. It is the responsibility of the student to register for classes outside the CE department. We do not have priority in those classes.