

CIVIL ENGINEERING (CE)

CE 101 Introduction to Civil Engineering 2(2-0)

Fall.

Study of civil engineering opportunities, civil engineering design process, professional ethics, professional licensure, trigonometry, basic computer office applications and team works.

Prerequisites: None.

Corequisites: None.

Registration Information: None.

CE 233 Strength of Materials with Lab 3(2-2)

Spring.

A study of the responses of materials to loads with attention to stresses, strains, elastic and plastic responses to beams and columns using analytical methods and calculus. Laboratory testing demonstrate these principles.

Prerequisites: EN 211.

Corequisites: None.

Registration Information: None.

CE 291 Special Topics 1-5(1-5-1-5)

As Needed.

Selected topics in civil engineering.

Prerequisites: None.

Corequisites: None.

Registration Information: Junior status or permission of instructor.

CE 321 Geotechnical Engineering I 3(2-2)

Spring.

Geotechnical engineering fundamentals, in-depth analysis and standard testing related to soil mechanics including permeability, consolidation and OSHA excavation safety.

Prerequisites: CE 233.

Corequisites: None.

Registration Information: None.

CE 331 Structural Analysis 3(3-0)

Fall.

Load calculations including wind and earthquake, and analysis of statically determinate and indeterminate structures including influence lines, approximate analysis, force method and moment distribution.

Prerequisites: CE 233.

Corequisites: None.

Registration Information: None.

CE 341 Introduction to Transportation Engineering 3(2-2)

Spring.

Introduction to transportation systems and study of basic traffic analysis, intersection geometry, roadside and cross-section design, signal design, traffic control and laboratory activities.

Prerequisites: CET 222 or EN 212.

Corequisites: None.

Registration Information: None.

CE 351 Hydraulics with Lab 3(2-2)

Fall.

Study and in-depth analysis of non-compressible fluids using analytical methods and calculus including the flow of water in pipes and open channels. Laboratory involves measuring static pressure, head losses, and flow rates.

Prerequisites: EN 211.

Corequisites: None.

Registration Information: None.

CE 361 Construction Engineering 4(4-0)

Spring.

Basics of engineering economics, project scheduling, earned-value analysis, and project management including business, public policy, leadership, team work, sustainability, professional ethics, and estimating.

Prerequisites: None.

Corequisites: None.

Registration Information: Junior standing or permission of instructor.

CE 391 Special Topics 1-5(1-5-1-5)

As Needed.

Selected topics in civil engineering.

Prerequisites: None.

Corequisites: None.

Registration Information: Junior status or permission of instructor.

CE 395 Independent Study 1-5(1-5-1-5)

As Needed.

Intensive study in civil engineering directed by a faculty member.

Prerequisites: None.

Corequisites: None.

Registration Information: Junior status or permission of instructor.

CE 396 Cooperative Education Placement 1-5(1-5-1-5)

As Needed.

Work experience in civil engineering under the direction of a field supervisor and a faculty member.

Prerequisites: None.

Corequisites: None.

Registration Information: Junior status or permission of instructor.

CE 404 (CET 404) Structural Steel Design 3(3-0)

Fall.

Structural steel design of beams, columns, girders and trusses to AISC standards.

Prerequisites: CE 331 or CET 316.

Corequisites: None.

Registration Information: None.

CE 405 (CET 405) Reinforced Concrete Design 3(3-0)

Spring.

Design of reinforced concrete beams, columns, girders and floor systems to conform to current ACI code.

Prerequisites: CE 331 or CET 316.

Corequisites: None.

Registration Information: None.

CE 412 (CET 412) Hydrology 3(3-0)

Spring.

Hydrologic cycle including precipitation, streamflow, ground-water runoff and the preparation of hydro graphs and frequency analysis.

Prerequisites: CE 351 or CET 317.

Corequisites: None.

Registration Information: None.

CE 415 (CET 415) Water & Sewer System Design 3(3-0)

Fall.

Fundamental principles of water supply and sewage design.

Prerequisites: CE 351 or CET 317 and CHEM 111.

Corequisites: None.

Registration Information: None.

CE 421 Geotechnical Engineering II 3(3-0)

Spring.

Analysis and design of slopes and foundations including retaining wall, shallow footings, deep foundations, pile foundations, mat foundations, earthquake loads, cofferdams, caissons, liquefaction and problems soils.

Prerequisites: CE 321.

Corequisites: None.

Registration Information: None.

CE 473 (CET 473) Highway Design 3(3-0)

Fall.

A study of highway planning and design.

Prerequisites: CE 321 or CET 315 and CE 341 or CET 372 and CET 208 and MATH 126.

Corequisites: None.

Registration Information: None.

CE 487 Senior Project Seminar 1(1-0)

Fall.

Be familiar with engineering analysis & design process in global, economic, environmental, & societal contexts. Create a collaborative and inclusive environment to establish goals, plan tasks & present the senior project.

Prerequisites: None.

Corequisites: None.

Registration Information: Senior standing.

CE 489 Senior Design Project 3(1-4)

Spring.

Application of civil engineering principles to plan, analysis, design, and make an execution plan of a realistic civil engineering project. Students prepare technical reports and make oral presentations.

Prerequisites: CE 487.

Corequisites: None.

Registration Information: None.

CE 491 Special Topics 1-5(1-5-1-5)

As Needed.

Selected topics in civil engineering.

Prerequisites: None.

Corequisites: None.

Registration Information: Senior status or permission of instructor.

CE 495 Independent Study 1-5(1-5-1-5)

As Needed.

Intensive study in civil engineering directed by a faculty member.

Prerequisites: None.

Corequisites: None.

Registration Information: Senior status or permission of instructor.

CE 496 Cooperative Education Placement 1-5(1-5-1-5)

As Needed.

Work experience in civil engineering under the direction of a field supervisor and a faculty member.

Prerequisites: None.

Corequisites: None.

Registration Information: Senior status or permission of instructor.