

ENVIRONMENTAL ENGINEERING MINOR INSTRUCTIONS

GENERAL

Environmental problem formulation, identification of solutions, and then implementation require an interdisciplinary approach. Additional breadth can be obtained by combining an undergraduate major in physical, mathematical, social, or biological sciences with a minor in environmental engineering. This minor will develop quantitative approaches to environmental analysis and is good preparation for graduate study in environmental engineering within the Department of Civil and Environmental Engineering at Berkeley and elsewhere.

REQUIREMENTS

To be considered for admission to the minor, students should have:

- Have an overall grade-point average of 3.0
- Completed the lower division prerequisite courses with a grade point average of 3.0.
- Upon admission to the minor, completion of a minimum of five (5) courses, of which no more than one can be counted toward of the requirements of the major(s).
- A minimum of a grade-point average of 2.0 in the minor
- Completion of the minor can not delay graduation.

PROCEDURE

After completion of the prerequisite courses, students need to complete and submit to the Civil and Environmental Academic Affairs office (750 Davis Hall) a Minor Program Application form.

- The Department of Civil and Environmental Engineering will approve or deny the application. If the application is approved, the department will provide the student with a copy of the approval form and retain the original.
- Upon completion of the minor requirements, the student must complete and submit to the Civil and Environmental Engineering Department's Office of Academic Affairs the Confirmation of Completion form no later than two weeks after the end of the term in which the minor was completed.
- The Department will verify the completion of the minor and send the original form to the Office of the Registrar. The department will also send a copy of the confirmation to the student's College or School and retain a copy for the department file.
- A notation in the memorandum section of the student's transcript will indicate completion of the minor.

PREREQUISITES

Course	Units	Title
Math 1A & 1B	4 /4	Calculus
Math 53 & 54	4 /4	Multivar. Calculus, Linear Algebra & Linear Equations

Chem 1A & 1B or Chem 4A & 4B	4 /4	General Chemistry or General Chemistry & Quantitative Analysis
Physics 7A & 7B	4 /4	Physics for Scientists and Engineers
E 7 or equivalent	4	Intro to Computer Programming for Scientists
CE 93 or equivalent	3	Engineering Data Analysis
CE C30/ME C85	3	Introduction to Solid Mechanics

REQUIRED UPPER DIVISION

Course	Units	Title	Prerequisites
CE 100 OR ME 106	4 4	Elementary Fluid Mechanics Fluid Mechanics	CE C30/ME C85& CE 93 (may be taken concurrently)
CE 111	3	Environmental Engineering	CE 100, CE 11 recommended

ANY THREE OF THE FOLLOWING UPPER DIVISION COURSES

Course	Units	Title	Prerequisites
CE 101	3	Fluid Mechanics of Rivers, Streams and Wetlands	CE 100 or ME 106 or consent of instructor
CE 103	3	Introduction to Hydrology	CE 93 & CE 100
CE C106	3	Air Pollution	Chem 1A & 1B, Phys 7A
CE 107	3	Climate Change Mitigation	Consent of instructor
CE 108	3	Air Pollutant Emissions & Control	CE 111
CE 112	3	Environmental Engineering Design	CE 100, CE 111, CE 167 (recommended)
CE 113N	3	Ecological Engineering for Water Quality Improvement	CE 111
CE 114	3	Environmental Microbiology	Chem 1A & 1B
CE 115	3	Water Chemistry	Upper Div Standing
CE C116	3	Environmental Aqueous Geochemistry	CE 111 or equivalent
CE 173	3	Groundwater and Seepage	Senior Standing, CE 100 is recommended