

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.

ADVISOR:

The Faculty Advisor for the Environmental Engineering Minor is Professor Robert Harley. He may be reached by e-mail at harley@berkeley.edu

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 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. Upon approval, the CEE Undergraduate Advisor will enter the minor into the student's CalCentral account.
- 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 preferably during the semester of completion, but no later than two weeks after the end of the semester of completion.
- The Department will verify the completion of the minor and send the original form to the Office of the Registrar. The CEE Undergraduate Advisor will verify the completion of the minor and input the minor into the Registrar's record keeping system.
- A notation in the memorandum section of the student's transcript will indicate completion of the minor.

PREREQUISITES

Course	Units	Title
Math 51 & 52	4 /4	Calculus
Math 53 & 54	4 /4	Multivar. Calculus, Linear Algebra & Linear Equations
Chem 1A or Chem 4A	3 /5	General Chemistry or General Chemistry & Quantitative Analysis
Physics 7A	4	Physics for Scientists and Engineers
Engin 7 or CS 61A	4	Intro to Computer Programming for Scientists or The Structure & Interpretation of Computer Languages

REQUIRED UPPER DIVISION

Course	Units	Title	Prerequisites
CE 100 OR ME 106	4 4	Elementary Fluid Mechanics Fluid Mechanics	CE C30 & CE 93 (minor students can take CE 100 without the pre-req courses)
CE 111	3	Environmental Engineering	CE 100, CE 11 recommended

ANY THREE OF THE FOLLOWING UPPER DIVISION COURSES

Course	Units	Title
CE 101	3	Fluid Mechanics of Rivers, Streams and Wetlands
CE C103N	3	Terrestrial Hydrology
CE 105	3	Design for Global Transformation
CE C106	3	Air Pollution
CE 107	3	Climate Change Mitigation
CE 108	3	Climate Change Adaptation
CE 110	3	Water Systems of the Future
CE 112	3	Water & Wastewater Systems Design and Operation
CE 113N	3	Ecological Engineering for Water Quality Improvement
CE 114	3	Environmental Microbiology
CE 115	3	Water Chemistry
CE C116	3	Environmental Aqueous Geochemistry
CE 173	3	Groundwater and Seepage