# 2012-13 Environmental Engineering Program Requirements

## UC Merced Campus Requirements
- **CORE 001 (4)** The World at Home I
- **WRI 010 (4)** College Reading & Composition

## General Education Requirements
- **MATH 021 (4)** Calculus I for Physical Sci & Engineer
- **PHYS 008 (4)** Physics I
- **MATH 032 (4)** Probability & Statistics
- **BIO 001 (4)** Contemporary Biology
- **CSE 020 (2)** Intro to Computing I
- **CSE 021 (2)** Intro to Computing II
- **Arts/Humanities GE (4)**
- **Social Science GE (4)**
- **ENGR 097/197 (3)** Or SSHA GE
- **Upper-division Writing Course (4)**

## Engineering Major Preparation
- **CHEM 002 (4)** General Chemistry
- **PHYS 009 (4)** Physics II
- **MATH 022 (4)** Calculus II for Physical Sci & Engineer
- **MATH 023 (4)** Vector Calculus
- **MATH 024 (4)** Linear Algebra & Diff. Equations

## UC Merced School of Engineering, 9/2012

### Engineering Fundamentals
- **ENGR 155 (3)** Engineering Economic Analysis #At least Junior Standing
- **ENGR 045 (4)** Intro to Materials
- **ENGR 057 (4)** Statics and Dynamics
- **ENGR 065 (4)** Circuit Theory
- **ENGR 120 (4)** Fluid Mechanics
- **ENGR 130 (3)** Thermodynamics
- **ENGR 151 (4)** Strength of Materials
- **ENGR 180 (4)** Spatial Analysis

**ENGR 045, 057, 065, 120, 130, & 151 are strongly recommended for students preparing for the Fundamentals of Engineering (FE) examination.**

### Environmental Engineering Core
- **ENVE 020 (4)** Intro to Environmental Sci & Tech
- **ENVE 100 (4)** Environmental Chemistry
- **ENVE 110 (4)** Hydrology & Climate
- **ENVE 130 (4)** Meteorology & Air Pollution
- **ENVE 160 (4)** Sustainable Energy
- **ENVE 190 (3)** ENVE Capstone Design

### Professional Seminar
- **ENGR 191 (1)** Professional Seminar #Taken last semester of Senior year

### Additional Requirement
- **CHEM 010 (4)** General Chemistry II

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Students in the Environmental Engineering program are also required to take a minimum of 15 units of Technical Electives. For specifics on Technical Electives please see the reverse side of this worksheet.
Environmental Engineering Technical Electives

Students must choose at least 15 units of Technical Electives.
- At least one course must contain a Field (F) component.
- At least one upper-division earth systems sciences course.
- At least one upper-division environmental biology course.
- A maximum of 4 Service Learning and/or Undergraduate Research may be used.

#Junior Standing

The remaining technical elective units may be taken from the following courses, or students may choose additional courses from the categories above.

- **ENVE 105 (3)** Environmental Data Analysis
- **ENVE 114 (4)** Mountain Hydrology of the Western States
- **ENVE 116 (3)** Applied Climatology
- **ENVE 118 (4)** Global Change
- **ENVE 121 (4)** Environmental Microbiology
- **ENVE 132 (3)** Air Pollution Control
- **ENVE 140 (3)** Water Resources & Management
- **ENVE 152 (4)** Remote Sensing of the Environment
- **ENVE 155 (4)** Decision Analysis in Management
- **ENVE 162 (3)** Modeling & Design of Energy Systems
- **ENVE 164 (4)** Energy Policy & Planning Modeling
- **ENVE 170 (3)** Contaminant Fate & Transport
- **ENVE 171 (3)** Environmental Organic Chemistry
- **ENVE 172 (3)** Water & Wastewater Treatment
- **ENGR 180 (4)** Spatial Analysis and Modeling
- **ESS 105 (3)** Biogeochemistry
- **ESS 120 (4)** Intro to Ecological & Environmental Microbiology
- **ESS 124 (3)** Terrestrial Ecosystem Ecology
- **ESS 148 (4)** Fundamentals of Ecology
- **ESS 149 (4)** Conservation Biology