

# ENVIRONMENTAL ENGINEERING

<i>Fall Quarter</i>	<i>Units</i>	<i>Winter Quarter</i>	<i>Units</i>	<i>Spring Quarter</i>	<i>Units</i>
<b>FIRST YEAR</b>					
CEE 010 <i>Intro to Chem. &amp; Envir. Engineering</i>	1	CHEM 001B & CHEM 011B <i>General Chemistry &amp; Lab</i>	5	CHEM 001C & CHEM 011C <i>General Chemistry &amp; Lab</i>	5
CHEM 001A & CHEM 011A <i>General Chemistry &amp; Lab</i>	5	ENGL 001B <i>Intermediate Composition</i>	4	ENGL 001C or Alternate* <i>Applied Intermediate Composition</i>	4
ENGL 001A <i>Beginning Composition</i>	4	MATH 009B <i>First Year Calculus</i>	4	MATH 009C <i>First Year Calculus</i>	4
MATH 009A <i>First Year Calculus</i>	4	PHYS 040A <i>Physics (Mechanics)</i>	5	PHYS 040B <i>Physics (Heat/Waves/Sound)</i>	5
<b>SECOND YEAR</b>					
CHEM 008A & CHEM 081A <i>Organic Chemistry</i>	4	CHE 100 <i>Engineering Thermodynamics</i>	4	CS 010 <i>C++ Programming</i>	4
ENVE 171 <i>Fundamentals of Environmental Engr.</i>	4	CHEM 008B & CHEM 081B <i>Organic Chemistry</i>	4	ENVE/CHE 130 <i>Advanced Engr. Thermodynamics</i>	4
MATH 010A <i>Multivariable Calculus</i>	4	MATH 010B <i>Multivariable Calculus</i>	4	MATH 046 <i>Differential Equations</i>	4
PHYS 040C <i>Physics (Electricity/Magnetism)</i>	5	Breadth _____ <i>Humanities/Social Sciences</i>	4	ME 010 <i>Statics</i>	4
<b>THIRD YEAR</b>					
BIOL 005A & BIOL 051A <i>Cell &amp; Molecular Biology &amp; Lab</i>	5	CEE 158 <i>Professional Development for Engr</i>	3	ENVE 146 <i>Water Quality Systems Design</i>	4
CHE 114 <i>Applied Fluid Mechanics</i>	4	CHE 120 <i>Mass Transfer</i>	4	ENVE/CHE 160A <i>Chem. &amp; Envir. Engineering Lab</i>	3
ENGR 118 <i>Engineering Modeling &amp; Analysis</i>	5	ENVE 133 <i>Fund. of Air Pollution Engineering</i>	4	Technical Elective** _____	4
Breadth _____ <i>Humanities/Social Sciences</i>	4	ENVE 142 <i>Water Quality Engineering</i>	4	Breadth _____ <i>Humanities/Social Sciences</i>	4
<b>FOURTH YEAR</b>					
ENSC/SWSC 100 <i>Intro to Soil Science</i>	4	ENVE 135 <i>Fate &amp; Trans. of Envir. Contaminants</i>	4	ENVE 175B <i>Senior Design Project</i>	4
ENVE 120 <i>Unit Operations and Processes</i>	4	ENVE 160C <i>Environmental Engineering Lab</i>	3	Technical Elective** _____	4
ENVE 160B <i>Environmental Engineering Lab</i>	3	ENVE 175A <i>Senior Design Project</i>	4	Breadth _____ <i>Humanities/Social Sciences</i>	4
Technical Elective** _____	4	Breadth _____ <i>Humanities/Social Sciences</i>	4	Breadth _____ <i>Humanities/Social Sciences</i>	4

To earn a B.S., you must complete all College and University requirements. For a full list of requirements, go to [www.catalog.ucr.edu](http://www.catalog.ucr.edu).

### ENGLISH COMPOSITION\*

A C or better is required in all English Composition courses to satisfy the graduation requirement. Please consult with your Academic Advisor for ENGL 1C alternatives.

### BREADTH REQUIREMENTS

For an approved list of Breadth courses, go to <http://student.engr.ucr.edu/policies/requirements/breadth.html>.

### Humanities: (3 courses)

- A. World History: \_\_\_\_\_
- B. Fine Arts, Lit., Phil., Rlst: \_\_\_\_\_
- C. Human Persp. on Science: \_\_\_\_\_

### Social Sciences: (3 courses)

- A. Econ. or Posc.: \_\_\_\_\_
- B. Anth., Psyc, or Soc.: \_\_\_\_\_
- C. General Social Science: \_\_\_\_\_

### Ethnicity: (1 course)

- 1. \_\_\_\_\_

### Upper Division: (2 courses)

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_

### TECHNICAL ELECTIVES \*\*

Please note that Technical Electives may be offered throughout the Academic Year. Consult with your Faculty Mentor about potential offerings. See approved technical electives on back.

Course Plan is subject to change.

## Environmental Engineering-Technical Electives

You must select one option below and complete 3 courses (at least 12 units) from that option.

Units are listed in (). Select from the list below:

### Air Pollution Control Technology Option:

\*CHE 116 Heat Transfer (4)

\*ENVE 134 Technology of Air Pollution Control (4)

\*Choose one from:

CEE 125 Analytical Methods for Chemical and Environmental Engineers (4)

CEE 132 Green Engineering (4)

CHE 102\*\* Catalytic Reaction Engineering (4)

ENSC/ENTX/CHEM 135 Chemistry of the Clean and Polluted Atmosphere (4)

ENVE 138 Combustion Engineering (4)

ENVE/ENSC 144 Solid Waste Management (4)

ENVE 145 Hazardous Waste Management (4)

### Water Pollution Control Technology Option:

\*Choose one from:

CHE 124\*\* Biochemical Engineering Principles (4)

ENVE 121 Biological Unit Processes (4)

\*Choose one from:

CEE 125 Analytical Methods for Chemical and Environmental Engineers (4)

CHE 116 Heat Transfer (4)

ENSC 136 Chemistry of Natural Waters (4)

ENSC 163 Hydrology (4)

\*Choose one from:

CEE 132 Green Engineering (4)

ENVE/ENSC 144 Solid Waste Management (4)

ENVE 145 Hazardous Waste Management (4)

\*Required for the option selected

\*\*Course requires prerequisites not accounted for in curriculum. Please check with the undergraduate faculty advisor about the ability to take this course.