

Environmental Engineering Major Degree Plan

The four-year program leading to the Bachelor of Science degree in Environmental Engineering is listed below. During the first two years, students are in a pre-engineering program. Students must successfully complete the pre-engineering program or, in the case of transfer students, substantially equivalent coursework at another institution before they are accepted into the professional program. Transfer students may apply for permission to take upper-division courses in cases where postponement of these courses will prolong the student's time to graduate.

Undergraduate Course Requirements for Environmental Engineering¹

Pre-engineering Program: Freshman and Sophomore

Freshman Year (32 credits)

Fall Semester (16 credits)

MATH 1210 (QL) ² Calculus I.....	4
CHEM 1210 ² Principles of Chemistry I.....	4
CHEM 1215 ² Chemical Principles Laboratory I.....	1
CEE 1880 ² Civil and Environmental Engineering Orientation and Computer Applications	1
CEE 2240 ² Engineering Surveying.....	3
University Studies Breadth course	3

Spring Semester (16 credits)

BIOL 1010 (BLS) ² Biology and the Citizen	3
MATH 1220 (QL) ² Calculus II.....	4
ETE 2270 ² Computer Engineering Drafting.....	2
PHYS 2210 (QI) General Physics—Science and Engineering I.....	4
University Studies Breadth course	3

Sophomore Year (32-33 credits)

Fall Semester (16-17 credits)

MATH 2250 (QI) ² Linear Algebra and Differential Equations.....	4
ENGR 2010 ² Engineering Mechanics Statics.....	2
ENGL 2010 (CL2) ² Intermediate Writing: Research Writing in a Persuasive Mode.....	3
GEO 1110 (BPS) ² The Dynamic Earth: Physical Geology (4 cr) or GEOG 1000 (BPS) Physical Geography (3 cr)	3 or 4
CEE 2890 ² Environmental Engineering Sophomore Seminar.....	1
University Studies Breadth course	3

Spring Semester (16 credits)

ENGR 2030 ² Engineering Mechanics Dynamics.....	3
ENGR 2140 Strength of Materials.....	2
ENGR 2450 ² Numerical Methods for Engineers	3
MAE 2300 ² Thermodynamics I.....	3
CEE 3030 Uncertainty in Engineering Analysis.....	2
University Studies Breadth course	3

¹Passing the Fundamentals of Engineering Exam is required for graduation. The exam is offered in October and April. Application must be made 120 days in advance. The exam is usually taken during fall semester of the senior year.

²These courses are required for admission to the Professional Engineering Program (PEP).

Professional Engineering Program: Junior and Senior

Junior Year (32 credits)

Fall Semester (15 credits)

CEE 3500 Civil and Environmental Engineering Fluid Mechanics	3
CEE 3610 ³ Environmental Management.....	3
CEE 3780 Solid and Hazardous Waste Management.....	3
CEE 3870 (CI) ³ Professional/Technical Writing in Civil and Environmental Engineering	2
PSC 3000 Fundamentals of Soil Science.....	4

Spring Semester (17 credits)

CEE 3430 Engineering Hydrology.....	3
CEE 3510 Civil and Environmental Engineering Hydraulics	3
CEE 3640 Water and Wastewater Engineering.....	4
CEE 3670 Transport Phenomena in Bio-Environmental Systems.....	3
CEE 3890 Environmental Engineering Design I.....	1
New course in Environmental Chemistry.....	3

Senior Year (29-30 credits)

Fall Semester (16 credits)

PUBH 3310 Occupational Health and Safety.....	3
CEE 4200 Engineering Economics	2
CEE 4790 (CI) ⁴ Environmental Engineering Design II	2
CEE 5610 Environmental Quality Analysis.....	3
CEE 5860 Air Quality Management.....	3
CEE Senior Design Elective course ⁴	3

Spring Semester (13-14 credits)

CEE 4890 (CI) Environmental Engineering Design III.....	2
Technical Elective course (Area 1, 2, or 3) ⁵	3
Technical Elective course (Area 4 or 5) ⁵	3
University Studies Depth Humanities and Creative Arts (DHA) and Depth Social Sciences (DSS) courses	5-6

³CEE 3610 and 3870 must be taken concurrently.

⁴Environmental Engineering students are required to complete a Senior Design elective course concurrent with CEE 4790. Available Senior Design elective courses are listed below.

⁵Environmental Engineering students must select at least two Technical Elective courses (totaling 6 credits) chosen from the specialty areas (options) listed below.

Senior Design Elective Courses

CEE 5690 Natural Systems Engineering (F).....	3
CEE 5810 Biochemical Engineering (F).....	3
CEE 5830 Management and Utilization of Biological Solids and Wastewater (F).....	3
CEE 5880 Remediation Engineering (F).....	3

Technical Elective Courses

Solids—Area 1

CEE/PUBH 5670 Hazardous Chemicals Handling and Safety (Sp).....	2
CEE/BIE 5680 Soil-based Waste Management (Sp)	2
CEE/PUBH 5730 Analysis and Fate of Environmental Contaminants (F).....	3
CEE/BIE 5830 Management and Utilization of Biological Solids and Wastewater (F)	3
CEE 5870 Hazardous Waste Incineration (Sp)	2
CEE 5880 Remediation Engineering (F)	3

Water—Area 2

CEE 5430 Groundwater Engineering (F).....	3
CEE/PSC 5620 Aquatic Chemistry (F)	3
CEE 5720 Natural Systems Modeling (Sp)	3
CEE/PUBH 5730 Analysis and Fate of Environmental Contaminants (F).....	3
CEE/BIE 5810 Biochemical Engineering (F).....	3

Air—Area 3

CEE 5710 Pollution Prevention and Industrial Ecology (Sp, Alt Years).....	2
CEE 5750 Air Quality Measurements (Sp)	2
CEE/PUBH 5790 Accident and Emergency Management (Sp)	3
CEE 5870 Hazardous Waste Incineration (Sp)	2

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Natural Systems—Area 4

CEE 5690 Natural Systems Engineering (F).....	3
WATS 4500 Limnology: Ecology of Inland Waters (Sp)	3
WATS 4530 Water Quality and Pollution (F)	3

Occupational Safety and Health—Area 5

PUBH 4310 Industrial Hygiene Recognition of Hazards (F).....	4
PUBH 4320 Industrial Hygiene Chemical Hazard Evaluation (Sp)	3
PUBH 4330 Industrial Hygiene Physical Hazards (Sp).....	3
PUBH 5330 (QI) Industrial Hygiene Chemical Hazard Control (F).....	3
CEE/PUBH 5670 Hazardous Chemicals Handling and Safety (Sp).....	2
CEE 5710 Pollution Prevention and Industrial Ecology (Sp).....	2
CEE/PUBH 5790 Accident and Emergency Management (Sp)	3