Bachelor of Science in Environmental Engineering

The Bachelor of Science in Environmental Engineering (BSEnvE) degree program is designed to provide students with comprehensive training in environmental engineering fundamentals. The program has been designed with the goal of receiving accreditation by the Engineering Accreditation Commission of ABET (http://www.abet.org). Accreditation can be sought once the program has had its first graduates; the program was launched at the start of the 2018-19 spring semester. The EnvE degree requires satisfactory completion of a minimum of 126 units as indicated in the BSEnvE Requirements table below. Of the courses listed in that table, the humanities and social sciences courses (except Engr 450X courses) may be taken pass/fail.

The program of study consists of 26 units of physical and biological sciences (i.e., biology, chemistry and physics); 21 units of mathematics and engineering computing; 43 units of core environmental engineering courses; 21 units of humanities, social sciences and technical writing; and 15 units of environmental engineering and science electives. The environmental engineering electives permit students to tailor their studies toward specific goals. Some of these 15 units may be taken in other engineering departments, and one course is explicitly required to be chosen from a set of natural science options. Students, in collaboration with their advisors, design a course of study (subject to certain requirements) for the environmental engineering and science electives. Consult the EECE department website (https://eece.wustl.edu/academics/undergraduate-programs/BS-in-Environmental-Engineering.html) for more details, including the requirements that must be satisfied by these environmental engineering and science electives.

BSEnvE Requirements

Total Units Required: 126

Physical Sciences	Units
General Chemistry (Chem 111A or Chem 105, Chem 112A or Chem 106) (111A and 112A Recommended)	6
General Chemistry Laboratory (Chem 151, Chem 152)	4
General Physics (Physics 191 or Physics 193, Physics 192 or Physics 194)	6 or 8
Physics Laboratory (Physics 191L or Physics 193L, Physics 192L or Physics 194L)	2
Organic Chemistry I (Chem 261)	4
Unit Subtotal	**22**

Biological Science	Units
Principles of Biology I (Biol 2960)	4
Unit Subtotal	**4**

Mathematics & Computing	Units
Calculus II, III (Math 132, Math 233)	6
Differential Equations (Math 217)	3
Engineering Mathematics A (ESE 318)	3
Introduction to Computer Science (CSE 131)	3
Engineering Statistics with Probability (Engr 328) or Probability and Statistics for Engineering (ESE 326)	3
Computational Modeling in Energy, Environmental and Chemical Engineering (EECE 202)	3
Unit Subtotal	**21**

Environmental Engineering Core	Units
Introduction to Energy, Environmental and Chemical Engineering (EECE 101)	3
Process Analysis and Thermodynamics (EECE 205)	4
Introduction to Environmental Engineering (EECE 210)	3
Transport Phenomena I: Basics and Fluid Mechanics (EECE 301)	3
Water Resources Engineering (EECE 308)	3
Environmental Engineering Fate and Transport (EECE 309)	3
Green Engineering (EECE 311)	3
Air Quality Engineering with Lab (EECE 314)	4
Environmental Biotechnology (EECE 407)	3
Environmental Engineering Laboratory (EECE 425)	3
Environmental Chemistry Selection (EECE 505 or EECE 531)	3
Physical and Chemical Processes for Water Treatment (EECE 533)	3
Process Design, Economics and Simulation (EECE 409)	2
Environmental Engineering Capstone (EECE 404)	3
Unit Subtotal	**43**

Other	Units
Environmental Engineering electives (some of these courses can be taken outside the EECE department)	12
Natural science elective	3
Engineering Ethics and Sustainability (Engr 4501)	1
Engineering Leadership and Team Building (Engr 4502)	1
Conflict Management and Negotiation (Engr 4503)	1
Environmental humanities or social sciences elective	3
Other humanities and social sciences electives	12
Technical Writing (Engr 310)	3
Unit Subtotal	**36**

Program Educational Objective

The Program Educational Objective for the BSEnvE degree program is that, within a few years of graduation, graduates will do the following:

1. Engage in professional practice, and/or
2. Attain advanced knowledge through graduate education or professional training in environmental engineering or their chosen field.

All will use their knowledge, skill, and abilities to serve society in a way that promotes equity and sustainability and additionally pursue activities that promote professional growth and fulfillment.