ENVIRONMENTAL ENGINEERING GRADUATE MAJOR (MENG, MS, PHD, MAIS)

Graduate Areas of Concentration

Bioremediation, environmental fluid mechanics, environmental microbiology, environmental modeling, multiphase phenomena, subsurface flow and transport, water and wastewater treatment

The School of Chemical, Biological and Environmental Engineering offers graduate curricula leading to the Master of Engineering, Master of Science, and Doctor of Philosophy degrees in Environmental Engineering. The ENVE program prepares individuals to apply mathematical and scientific principles to the design, development and operational evaluation of systems for controlling contained living environments and for monitoring and controlling factors in the external natural environment. Specific application areas include pollution control, waste and hazardous material disposal, health and safety protection, conservation, life support, and requirements for protection of special materials and related work environments, as well as emerging areas including sustainability, detection and treatment of emerging contaminants and their fate in the natural environment, water supply for a growing world population, and mitigation of the effects of climate change, among others. All programs are tailored to individual student needs and professional goals. A diversity of faculty interests, broadened and reinforced by cooperation between the school and other engineering departments and schools and research centers on campus, make tailored individual programs possible.

For more information, contact the Graduate Programs Coordinator, School of Chemical, Biological and Environmental Engineering, Oregon State University, Corvallis, OR 97331-2904, 541-737-0479 or email cbee-gradinfo@engr.orst.edu.

MEng Degree

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>ENVE 532</td>
<td>AQUATIC CHEMISTRY: NATURAL AND ENGINEERED SYSTEMS</td>
<td>4</td>
</tr>
<tr>
<td>ENVE 535</td>
<td>PHYSICAL AND CHEMICAL TREATMENT PROCESSES</td>
<td>4</td>
</tr>
<tr>
<td>ENVE 536</td>
<td>AQUEOUS ENVIRONMENTAL CHEMISTRY LABORATORY</td>
<td>1</td>
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<tr>
<td>ENVE 541</td>
<td>MICROBIAL PROCESSES IN ENVIRONMENTAL SYSTEMS</td>
<td>4</td>
</tr>
<tr>
<td>CHE 507</td>
<td>(Course dropped in 2015)</td>
<td>3</td>
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<tr>
<td>CHE 525</td>
<td>CHEMICAL ENGINEERING ANALYSIS</td>
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Select 15 credits
Total Hours 45

MS Degree

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Minor Course Work/Electives
Select 15 credits 16-19
Thesis Select 6-9 credits 6-9
Total Hours 42-48

PhD Degree

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Minor Course Work/Electives
Select a minimum of 16 credits (Exact requirement determined by the student’s program committee)
Thesis Select 36-72 credits 36-72
Total Hours 72-108

Prerequisite and Corequisite Course Work for Non-engineering Undergraduates

MEng, MS, or PhD students without undergraduate degrees in environmental engineering or a related engineering discipline must take the following courses in addition to the ENVE core.

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Prerequisite Courses
Completion of the following required before taking ENVE core courses

- Math through differential equations
- One year of general chemistry
One year of physics

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<thead>
<tr>
<th>Course</th>
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<tr>
<td>CBE 211</td>
<td>MATERIAL BALANCES AND STOICHIOMETRY</td>
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**Corequisite Courses**

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<thead>
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<th>Credits</th>
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<tbody>
<tr>
<td>CE 547</td>
<td>WATER RESOURCES ENGINEERING I: PRINCIPLES OF FLUID MECHANICS</td>
<td>4</td>
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<tr>
<td>ENVE 521</td>
<td>DRINKING WATER TREATMENT PROCESSES</td>
<td>4</td>
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<tr>
<td>ENVE 522</td>
<td>WASTEWATER TREATMENT PROCESSES</td>
<td>4</td>
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<tr>
<td>ENVE 531</td>
<td>FATE AND TRANSPORT OF CHEMICALS IN ENVIRONMENTAL SYSTEMS</td>
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**Note:** ENVE 521 DRINKING WATER TREATMENT PROCESSES and ENVE 522 WASTEWATER TREATMENT PROCESSES will not count towards the credit requirements for the MEng, MS, and PhD degrees.

**Major Code:** 3310