ENVIRONMENTAL ENGINEERING - PROFESSIONAL MASTER OF SCIENCE (MSENV)

The professional master's degree (MSENV) in environmental engineering is a coursework-only program that offers possibilities for a range of prospective students.

Whether a prospective student is a working engineer or an undergraduate considering widening their exposure to areas of environmental engineering, we have program options to meet their needs. Prospective professional master’s degree students may choose between three different tracks:

- Environmental engineering
- Water reuse
- Water engineering & management

For more information, visit the department's Curriculum and Courses (http://www.colorado.edu/even/prospective-students/graduate-studies/curriculum-and-courses/) webpage.

Requirements

General Requirements

The following course requirements are subject to change; for the most current information, visit the Program’s Curriculum and Courses (http://www.colorado.edu/even/prospective-students/graduate-studies/curriculum-and-courses/) webpage.

The professional master’s degree requires 30 credit hours of graduate-level courses with a minimum cumulative GPA of 3.00.

For students who have undertaken prior graduate study, up to 9 semester credit hours of relevant graduate-level course work may be transferred to meet the course requirements for the MSENV degree, following the rules established by the Graduate School for transfer credit.

Program Tracks

General Environmental Engineering Track

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVEN 5464</td>
<td>Environmental Engineering Processes</td>
<td>3</td>
</tr>
<tr>
<td>CVEN 5404</td>
<td>Water Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>or CHEM 5151</td>
<td>Atmospheric Chemistry</td>
<td></td>
</tr>
<tr>
<td>CVEN 5484</td>
<td>Applied Microbiology and Toxicology</td>
<td>3</td>
</tr>
<tr>
<td>MCEN 5131</td>
<td>Air Pollution Control Engineering</td>
<td></td>
</tr>
</tbody>
</table>

Electives

Choose one of the following: 3

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVEN 5524</td>
<td>Drinking Water Treatment</td>
</tr>
<tr>
<td>CVEN 5534</td>
<td>Wastewater Treatment</td>
</tr>
</tbody>
</table>

Choose five additional electives in consultation with the student’s faculty advisor. 15

Total Credit Hours 27

Water Reuse Track

Required Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>CVEN 5464</td>
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Water Reuse Required Courses

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<tr>
<th>Code</th>
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<th>Credit Hours</th>
</tr>
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<tbody>
<tr>
<td>CVEN 5594</td>
<td>Water Reuse and Reclamation</td>
<td>3</td>
</tr>
<tr>
<td>CVEN 5834</td>
<td>Special Topics (Water Reuse Planning and Implementation)</td>
<td>3</td>
</tr>
</tbody>
</table>

Elective Courses

Choose one of the following 9

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVEN 5593</td>
<td>Water Resources System and Management</td>
<td></td>
</tr>
<tr>
<td>CVEN 5834</td>
<td>Special Topics (Advanced Water Treatment)</td>
<td>3</td>
</tr>
</tbody>
</table>

And choose two from the following or above: 6

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CVEN 5564</td>
<td>Water Profession: Communication and Utility Finance</td>
<td></td>
</tr>
<tr>
<td>CVEN 5574</td>
<td>Water Utility Management: Current Issues and Future Challenges</td>
<td></td>
</tr>
<tr>
<td>CVEN 5424</td>
<td>Environmental Organic Chemistry</td>
<td></td>
</tr>
<tr>
<td>EVEN 5584</td>
<td>Sustainable Engineering Design</td>
<td></td>
</tr>
</tbody>
</table>

Global Environmental Engineering Track

Required Courses

<table>
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<tr>
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<td>CVEN 5484</td>
<td>Applied Microbiology and Toxicology</td>
<td>3</td>
</tr>
<tr>
<td>CVEN 5919</td>
<td>Global Development for Engineers</td>
<td>3</td>
</tr>
<tr>
<td>CVEN 5939</td>
<td>Global Development Practicum</td>
<td>3</td>
</tr>
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</table>

Choose five additional electives in consultation with the student’s faculty advisor. 15

Total Credit Hours 27

Global Environmental Engineering Track
### Global Engineering Series

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CVEN 5969</td>
<td>Water, Sanitation, and Hygiene</td>
</tr>
<tr>
<td>MCEN 5228</td>
<td>Special Topics in Mechanical Engineering (Household Energy Systems in the Global South)</td>
</tr>
</tbody>
</table>

Choose 6 one-credit modules from remaining Global Engineering Series offerings:

<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>EVEN 5004</td>
<td>Introduction to Humanitarian Aid</td>
</tr>
<tr>
<td>EVEN 5014</td>
<td>Disaster Risk Reduction</td>
</tr>
<tr>
<td>EVEN 5024</td>
<td>Refugees and Displacement</td>
</tr>
<tr>
<td>CVEN 5837</td>
<td>Special Topics for Seniors/Grads (Program &amp; Project Management (1), Solution Identification &amp; Proposal Development (1), Community Appraisal (1), Study Design &amp; Impact Evaluation (1), Data Collection &amp; Analysis Tools (1))</td>
</tr>
<tr>
<td>CVEN 5838</td>
<td>Special Topics (Intro to Development Economics for Engineers (1), Intro to Global Health for Engineers (1))</td>
</tr>
</tbody>
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Choose one additional elective in consultation with the student's faculty advisor.  

### Total Credit Hours

<table>
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<tbody>
<tr>
<td>30</td>
</tr>
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1 Global Engineering Series course options can be found on the Mortenson Center website (https://www.colorado.edu/center/mortenson/graduate-education/professional-masters-degrees/).