## UC Merced Campus Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CORE 001</td>
<td>The World at Home I</td>
<td>4</td>
</tr>
<tr>
<td>CORE 100</td>
<td>The World at Home II</td>
<td>4</td>
</tr>
<tr>
<td>WRI 010</td>
<td>College Reading &amp; Composition</td>
<td>4</td>
</tr>
</tbody>
</table>

## Engineering Major Preparation

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 002</td>
<td>General Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 009</td>
<td>Physics II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 022</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 023</td>
<td>Vector Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 024</td>
<td>Linear Algebra &amp; Diff. Equations</td>
<td>4</td>
</tr>
</tbody>
</table>

## Environmental Engineering Core

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVE 20</td>
<td>Intro to Environmental Sci &amp; Tech</td>
<td>4</td>
</tr>
<tr>
<td>ENVE 100</td>
<td>Environmental Chemistry</td>
<td>4</td>
</tr>
<tr>
<td>ENVE 110</td>
<td>Hydrology &amp; Climate</td>
<td>4</td>
</tr>
<tr>
<td>ENVE 130</td>
<td>Meteorology &amp; Air Pollution</td>
<td>4</td>
</tr>
</tbody>
</table>

## General Education Requirements

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 021</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 008</td>
<td>Physics I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 032</td>
<td>Statistics</td>
<td>4</td>
</tr>
<tr>
<td>BIO 001</td>
<td>Contemporary Biology</td>
<td>4</td>
</tr>
<tr>
<td>CSE 020</td>
<td>Intro to Computing I</td>
<td>2</td>
</tr>
<tr>
<td>CSE 021</td>
<td>Intro to Computing II</td>
<td>2</td>
</tr>
<tr>
<td>Arts/Humanities GE</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>ENGR 097/197</td>
<td>Or SSHA GE</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 197</td>
<td>Or upper division SSHA GE</td>
<td>3</td>
</tr>
</tbody>
</table>

## Engineering Fundamentals

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGR 155</td>
<td>Engineering Economic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 045</td>
<td>Intro to Materials</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 057</td>
<td>Statics and Dynamics</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 065</td>
<td>Circuit Theory</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 120</td>
<td>Fluid Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 130</td>
<td>Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td>ENGR 151</td>
<td>Strength of Materials</td>
<td>4</td>
</tr>
<tr>
<td>ENGR 180</td>
<td>Spatial Analysis</td>
<td>4</td>
</tr>
</tbody>
</table>

## Professional Seminar

- **ENGR 191 (1)**: Professional Seminar
  - Taken last semester of Senior year

## Additional Requirement

- **CHEM 010 (4)**: General Chemistry II

Students in the Environmental Engineering program are also required to take a minimum of 15 units of Technical Electives. For choices of Technical Electives please see the reverse side of this worksheet.

# = Class-level restriction

UC Merced School of Engineering, 5/2012
Environmental Engineering Technical Electives

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVE 105 (3)</td>
<td>Environmental Data Analysis</td>
</tr>
<tr>
<td>ESS 112 (4)</td>
<td>Subsurface Hydrology</td>
</tr>
<tr>
<td>ENVE 114 (4)</td>
<td>Mountain Hydrology of the Western States</td>
</tr>
<tr>
<td>ENVE 116 (3)</td>
<td>Applied Climatology</td>
</tr>
<tr>
<td>ENVE 118 (4)</td>
<td>Global Change</td>
</tr>
<tr>
<td>ENVE 121 (4)</td>
<td>Environmental Microbiology</td>
</tr>
<tr>
<td>ENVE 140 (3)</td>
<td>Water Resources &amp; Management</td>
</tr>
<tr>
<td>ENVE 152 (4)</td>
<td>Remote Sensing of the Environment</td>
</tr>
<tr>
<td>ENVE 155 (4)</td>
<td>Decision Analysis in Management</td>
</tr>
<tr>
<td>ENVE 160 (4)</td>
<td>Sustainable Energy</td>
</tr>
<tr>
<td>ENVE 162 (3)</td>
<td>Modeling &amp; Design of Energy Systems</td>
</tr>
<tr>
<td>ENVE 170 (3)</td>
<td>Contaminant Fate &amp; Transport</td>
</tr>
<tr>
<td>ENVE 171 (3)</td>
<td>Environmental Organic Chemistry</td>
</tr>
<tr>
<td>ENVE 181 (F)</td>
<td>Field Methods in Snow Hydrology</td>
</tr>
<tr>
<td>ENVE 182 (F)</td>
<td>Field Methods in Surface Hydrology</td>
</tr>
<tr>
<td>ENVE 183 (F)</td>
<td>Field Methods in Subsurface Hydrology</td>
</tr>
<tr>
<td>ENS 105 (3)</td>
<td>Watershed Biogeochemistry</td>
</tr>
<tr>
<td>ENS 105 (3)</td>
<td>Watershed Biogeochemistry</td>
</tr>
<tr>
<td>ENGR 180 (4)</td>
<td>Spatial Analysis and Modeling</td>
</tr>
<tr>
<td>ENGR 199 (1-5)</td>
<td>Individual Study</td>
</tr>
<tr>
<td>ENVE 105 (3)</td>
<td>Environmental Data Analysis</td>
</tr>
<tr>
<td>ENVE 112 (4)</td>
<td>Subsurface Hydrology</td>
</tr>
<tr>
<td>ENVE 114 (3)</td>
<td>Mountain Hydrology of the Western States</td>
</tr>
<tr>
<td>ENVE 118 (4)</td>
<td>Global Change</td>
</tr>
<tr>
<td>ENVE 152 (4)</td>
<td>Remote Sensing of the Environment</td>
</tr>
<tr>
<td>ENVE 160 (4)</td>
<td>Sustainable Energy</td>
</tr>
<tr>
<td>ENVE 171 (3)</td>
<td>Environmental Organic Chemistry</td>
</tr>
<tr>
<td>ENVE 176 (3)</td>
<td>Water &amp; Wastewater Treatment</td>
</tr>
<tr>
<td>ENVE 181 (F)</td>
<td>Field Methods in Snow Hydrology</td>
</tr>
<tr>
<td>ENVE 182 (F)</td>
<td>Field Methods in Surface Hydrology</td>
</tr>
<tr>
<td>ENVE 183 (F)</td>
<td>Field Methods in Subsurface Hydrology</td>
</tr>
<tr>
<td>ENVE 184 (F)</td>
<td>Field Methods in Environmental Chemistry</td>
</tr>
<tr>
<td>ENGR 180 (4)</td>
<td>Spatial Analysis and Modeling</td>
</tr>
<tr>
<td>ENGR 199 (1-5)</td>
<td>Individual Study</td>
</tr>
<tr>
<td>ENVE 105 (3)</td>
<td>Environmental Data Analysis</td>
</tr>
<tr>
<td>ENVE 112 (4)</td>
<td>Subsurface Hydrology</td>
</tr>
<tr>
<td>ENVE 114 (3)</td>
<td>Mountain Hydrology of the Western States</td>
</tr>
<tr>
<td>ENVE 118 (4)</td>
<td>Global Change</td>
</tr>
<tr>
<td>ENVE 152 (4)</td>
<td>Remote Sensing of the Environment</td>
</tr>
<tr>
<td>ENVE 160 (4)</td>
<td>Sustainable Energy</td>
</tr>
<tr>
<td>ENVE 171 (3)</td>
<td>Environmental Organic Chemistry</td>
</tr>
<tr>
<td>ENVE 176 (3)</td>
<td>Water &amp; Wastewater Treatment</td>
</tr>
<tr>
<td>ENVE 181 (F)</td>
<td>Field Methods in Snow Hydrology</td>
</tr>
<tr>
<td>ENVE 182 (F)</td>
<td>Field Methods in Surface Hydrology</td>
</tr>
<tr>
<td>ENVE 183 (F)</td>
<td>Field Methods in Subsurface Hydrology</td>
</tr>
<tr>
<td>ENVE 184 (F)</td>
<td>Field Methods in Environmental Chemistry</td>
</tr>
</tbody>
</table>

Water Quality Emphasis Suggestions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVE 121 (4)</td>
<td>Environmental Microbiology</td>
</tr>
<tr>
<td>ENVE 140 (3)</td>
<td>Water Resources &amp; Management</td>
</tr>
<tr>
<td>ENVE 170 (3)</td>
<td>Contaminant Fate &amp; Transport</td>
</tr>
<tr>
<td>ENVE 176 (3)</td>
<td>Water &amp; Wastewater Treatment</td>
</tr>
<tr>
<td>ENVE 183 (F)</td>
<td>Field Methods in Subsurface Hydrology</td>
</tr>
<tr>
<td>ENVE 184 (F)</td>
<td>Field Methods in Environmental Chemistry</td>
</tr>
</tbody>
</table>

Hydrology Emphasis Suggestions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVE 105 (3)</td>
<td>Environmental Data Analysis</td>
</tr>
<tr>
<td>ENVE 112 (4)</td>
<td>Subsurface Hydrology</td>
</tr>
<tr>
<td>ENVE 114 (3)</td>
<td>Mountain Hydrology of the Western States</td>
</tr>
<tr>
<td>ENVE 118 (4)</td>
<td>Global Change</td>
</tr>
<tr>
<td>ENVE 152 (4)</td>
<td>Remote Sensing of the Environment</td>
</tr>
<tr>
<td>ENVE 160 (4)</td>
<td>Sustainable Energy</td>
</tr>
<tr>
<td>ENVE 170 (3)</td>
<td>Contaminant Fate &amp; Transport</td>
</tr>
</tbody>
</table>

Sustainable Energy Emphasis Suggestions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVE 105 (3)</td>
<td>Environmental Data Analysis</td>
</tr>
<tr>
<td>ENVE 118 (4)</td>
<td>Global Change</td>
</tr>
<tr>
<td>ENVE 155 (4)</td>
<td>Decision Analysis in Management</td>
</tr>
<tr>
<td>ENVE 160 (4)</td>
<td>Sustainable Energy</td>
</tr>
</tbody>
</table>

Air Pollution Emphasis Suggestions

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVE 105 (3)</td>
<td>Environmental Data Analysis</td>
</tr>
<tr>
<td>ENVE 112 (4)</td>
<td>Subsurface Hydrology</td>
</tr>
<tr>
<td>ENVE 114 (3)</td>
<td>Mountain Hydrology of the Western States</td>
</tr>
<tr>
<td>ENVE 118 (4)</td>
<td>Global Change</td>
</tr>
<tr>
<td>ENVE 132 (3)</td>
<td>Air Pollution Control</td>
</tr>
<tr>
<td>ENVE 152 (4)</td>
<td>Remote Sensing of the Environment</td>
</tr>
<tr>
<td>ENVE 160 (4)</td>
<td>Sustainable Energy</td>
</tr>
<tr>
<td>ENVE 170 (3)</td>
<td>Environmental Organic Chemistry</td>
</tr>
</tbody>
</table>

# = Class Standing Restriction

Students must choose at least 15 units of Technical Electives. One course must contain a Field (F) component. A maximum of 4 Service Learning and/or Undergraduate Research may be used.

Service learning units counted as technical electives may not be counted as GE