(For all students in the Program)

Undergraduate Minor Program in Environmental Sustainability and Management

Any undergraduate students with a CGA of 2.15 or above may enroll in this minor program. A background in basic chemistry would be beneficial to students' study but not essential for admission. Typically, students need three regular terms to finish this minor program. Students must declare their intention to enroll in the minor program no earlier than the second regular term of their first year of study but no later than the last day of the add/drop period in the second regular term of their penultimate year of study. Special approval should be obtained from the program coordinator for declaration made later than the enrollment window. Students who wish to withdraw from the minor program should apply before the last day of add/drop period in the last regular term of their study.

Minor Requirements

To graduate with a minor in Environmental Sustainability and Management, students must have enrolled in the minor program and complete a minimum total of 18 credits and all of its requirements, as well as all the requirements of their major program of study; and attain an average grade point of at least 2.15 in course taken within the minor program.

For credit transfer, students can transfer a maximum total of 6 credits to the Minor Program.

Out of the total credits required by the minor program, at least 9 credits should be single-counted within the minor and are not used to fulfill any other requirements for graduation except the 120-credit degree requirement.

Students may use no more than 6 credits earned from courses offered in self-paced online delivery mode to satisfy the graduation requirements of a degree program. This 6-credit limit does not apply to credits obtained through the credit transfer procedures of the University.

Some courses in the curriculum have been previously coded with CORE-prefix where the special CORE-prefix has been replaced by the domain code of courses starting from Fall 2023-24. Students who have registered with these CORE-coded courses may look up their latest course codes by consulting the conversion table published on the Common Core website.

Required Course(s)

<table>
<thead>
<tr>
<th>Credit(s) attained</th>
<th>CIVL/CENG 1140 OR CENG 1700</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL 1140</td>
<td>Environmental Quality Control and Improvement</td>
<td>3</td>
</tr>
<tr>
<td>CENG 1700</td>
<td>Introduction to Environmental Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CIVL 4430</td>
<td>Environmental Impact Assessment</td>
<td>3</td>
</tr>
</tbody>
</table>

Elective(s)

Environmental Sustainability and Management Electives (4 courses from the specified elective list. No more than one course within the same course group of CIVL 2510/CENG 2220/MECH 2210 can be counted towards the elective requirement.)

<table>
<thead>
<tr>
<th>Minimum credit(s) required</th>
<th>SENG/SSCI Environmental Sustainability and Management Electives (4 courses)</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CIVL 1170** Big History, Sustainability and Climate Change</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CIVL 2510 Fluid Mechanics</td>
<td>3</td>
</tr>
</tbody>
</table>

2023-24 MINOR-ESM
## School of Engineering - Undergraduate Minor Program in Environmental Sustainability and Management

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIVL 3420</td>
<td>Water and Wastewater Engineering</td>
<td>3</td>
</tr>
<tr>
<td>CIVL 4460</td>
<td>Process Design of Environmental Engineering Facilities</td>
<td>3</td>
</tr>
<tr>
<td>CIVL 4470</td>
<td>Air Quality Control and Management</td>
<td>3</td>
</tr>
<tr>
<td>CIVL 4520</td>
<td>Municipal Hydrosystems Engineering and Management</td>
<td>3</td>
</tr>
<tr>
<td>CIVL 2220</td>
<td>Transport Phenomena I</td>
<td>3</td>
</tr>
<tr>
<td>CENG 3210</td>
<td>Separation Processes</td>
<td>3</td>
</tr>
<tr>
<td>CENG 4140</td>
<td>Energy Resources, Conversions and Technologies</td>
<td>3</td>
</tr>
<tr>
<td>CENG 4710</td>
<td>Environmental Control</td>
<td>3</td>
</tr>
<tr>
<td>MECH 2210</td>
<td>Fluid Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>MECH 4350</td>
<td>Indoor Air Quality in Buildings</td>
<td>3</td>
</tr>
<tr>
<td>LIFS 1030</td>
<td>Environmental Science</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 1003</td>
<td>Energy and Related Environmental Issues</td>
<td>3</td>
</tr>
</tbody>
</table>

**Remarks on course(s):**
- CIVL 1170: The course was last offered in 2021-22 and was deleted subsequently.
- LIFS 1030: The course was last offered in 2020-21 and was deleted subsequently.