## Curriculum

### Civil Engineering Curriculum 2014-2015

<table>
<thead>
<tr>
<th>First Year</th>
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<tbody>
<tr>
<td><strong>MAT</strong> 295 Calculus I</td>
</tr>
<tr>
<td><strong>CHE</strong> 150 General Chemistry I</td>
</tr>
<tr>
<td><strong>CHE</strong> 151 Gen. Chem. Lab I</td>
</tr>
<tr>
<td><strong>ECS</strong> 101 Intro to ECS</td>
</tr>
<tr>
<td><strong>WRT</strong> 105 Writing Studio I</td>
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<tr>
<td><strong>SS/HUM</strong></td>
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<tr>
<td><strong>Semester Credits</strong></td>
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<tr>
<th>Second Year</th>
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<tbody>
<tr>
<td><strong>MAT</strong> 397 Calculus III</td>
</tr>
<tr>
<td><strong>PHY</strong> 212 General Physics II</td>
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<tr>
<td><strong>PHY</strong> 222 Gen. Physics Lab II</td>
</tr>
<tr>
<td><strong>ECS</strong> 221 Statics</td>
</tr>
<tr>
<td><strong>CIE</strong> 272 CIE Measurements</td>
</tr>
<tr>
<td><strong>ELE</strong> 231 Elec. Eng. (EE) Fund I</td>
</tr>
<tr>
<td><strong>MAE</strong> 251 Thermodynamics</td>
</tr>
<tr>
<td><strong>CIE</strong> 274 Civ/Env. Systems</td>
</tr>
<tr>
<td><strong>WRT</strong> 205 Writing Studio II</td>
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<th>Third Year</th>
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<tbody>
<tr>
<td><strong>CIE</strong> 331 Analysis of Struct. &amp; Mat’l.</td>
</tr>
<tr>
<td><strong>CIE</strong> 337 Intro. to Geo. Eng.</td>
</tr>
<tr>
<td><strong>CIE</strong> 341 Intro. to Env. Eng.</td>
</tr>
<tr>
<td><strong>CIE</strong> 327 Prin. of Fluid Mech.</td>
</tr>
<tr>
<td><strong>MAE</strong> 341 Fluid Mechanics</td>
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<tr>
<td><strong>SS/HUM</strong></td>
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<th>Fourth Year</th>
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<tbody>
<tr>
<td><strong>CIE</strong> 441 Transportation Eng.</td>
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<tr>
<td><strong>CIE</strong> 442 Treatment Proc. in Env. Eng.</td>
</tr>
<tr>
<td><strong>CIE</strong> 475 Civ/Env. Eng. Design</td>
</tr>
<tr>
<td><strong>CIE</strong> 447 Professional Elective</td>
</tr>
<tr>
<td><strong>Technical Elective 1</strong></td>
</tr>
<tr>
<td><strong>Technical Elective 2</strong></td>
</tr>
<tr>
<td><strong>Free Elective</strong></td>
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<tr>
<td><strong>SS/HUM</strong></td>
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<td><strong>Semester Credits</strong></td>
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Total Credits Required: 127/128.

*take either EAR110 or EAR203, the other must be SS/HUM.

**take one from the group.
SS/HUM Electives

All CIE students are required to complete at least 18 credits of SS/HUM electives. A minimum of one course (3 credits) must be chosen from each of the three groups of designated courses listed below. The remaining three SS/HUM electives (9 credits) can be selected from the lists below or, in addition to the lists, may be chosen from:

- any College of Arts and Sciences courses that are listed on their Humanities and Social Sciences lists in the SU Bulletin – Undergraduate Course Catalog
- any foreign language courses (except the student’s native language)
- ECS 391 – Legal Aspects of Engineering and Computer Science
- ECS 392 – Ethical Aspects of Engineering and Computer Science

**Group 1: Economics and Social Issues**
ECN 203 – Economics Ideas and Issues
ECN 301* – Intermediate Microeconomics
ECN 302* – Intermediate Macroeconomics
ECN 365* – The World Economy
GEO 353 – Environmental Justice
PSC 383 – Civil Society and Democracy
SOC 101 – Introduction to Sociology
SOC 102 – Social Problems
SOC 363 – Urban Sociology
STS/BPS 101 – Introduction to Science, Technology and Society

* requires ECN203 as prerequisite

**Group 2: Global Affairs**
ECN 365 – The World Economy
GEO 103 – America and the Global Environment
GEO 105 – World Geography
GEO 215 – Global Environmental Change
GEO 272 – World Cultures
GEO 273 – World Political Economy
MAX 123 – Critical Issues for the U.S.
MAX 132 – Global Community
PAF 351 – Global Social Problems
PSC 124 – International Relations
PSC 355 – International Political Economy

**Group 3: Public Policy and Policy Studies**
ECN/WGS 358 – Economics of US Poverty and Discrimination
GEO 203 – Society and the Politics of Nature
GEO 314 – Hazardous Geographic Environments
GEO 356 – Environmental Ideas and Policy
PAF 101 – An Introduction to the Analysis of Public Policy
PAF 409* – Intermediate Analysis of Public Policy
PAF 451 – Environmental Policy
PSC 302 - Environmental Politics and Policy
PSC 305 – Legislative Process and US Congress
PSC 308 – The Politics of US Public Policy
PSC 312 – Urban Government & Politics
PSC 318 – Technology, Politics & Environment

† requires PAF101 as prerequisite

Check with your advisor to make sure the courses you have selected will fulfill your degree requirements. The SSH credits can be, and are encouraged to be, used towards the completion of a minor.
Professional Electives

Professional Electives are courses that advance a student’s professional abilities and form a cohesive and meaningful addition to the required CIE coursework. They are designed to develop and enhance a student’s role as a professional civil or environmental engineer. Professional Electives are *upper-level courses* (300 and above), generally from professional schools at SU and SUNY-ESF, and must be selected in consultation with the student’s academic advisor. Many Professional Electives can be used towards completion of a minor. Approved Professional Electives include ECS 222, ELE 231 and MAE 251, if they have not been used to satisfy other degree requirements. Also, courses offered in the following schools/colleges with the indicated prefixes may be used as professional electives.

<table>
<thead>
<tr>
<th>School/College</th>
<th>Course Prefix</th>
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<tbody>
<tr>
<td>Architecture</td>
<td>ARC</td>
</tr>
<tr>
<td>Arts and Sciences</td>
<td>AST, BCM, BIO, CHE, ECN, GEO, GOL, MAX, MAT, PAF, PHY</td>
</tr>
<tr>
<td>Engineering and Computer Science</td>
<td>All course prefixes</td>
</tr>
<tr>
<td>Information Studies</td>
<td>IST</td>
</tr>
<tr>
<td>Whitman</td>
<td>ACC, BUA, EEE, FIN, INB, LPP, MAR, O&amp;M, OPM, SHR, SOM</td>
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<tr>
<td>Newhouse</td>
<td>COM</td>
</tr>
<tr>
<td>VPA</td>
<td>CRS</td>
</tr>
<tr>
<td>SUNY-ESF</td>
<td>All course prefixes</td>
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Technical Electives

Technical Electives MUST be CIE courses numbered 300 and above. They are to be selected in consultation with a student’s advisor to advance the student’s knowledge in a specific area of interest in civil or environmental engineering.