## ENVIRONMENTAL FOCUS AREA:
Informatics
Department of Civil and Environmental Engineering

### General Education (19 sh)
- RHET:1030 Rhetoric (4 sh)
- Diversity & Inclusion (3 sh)
- Be Creative (3 sh)
- Approved Gen Ed Course (3 sh)
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### Math & Basic Science Core (24 sh)
- MATH:1550 Math I: Single Variable Calculus (P: ALEKS score ≥ 75 or MPT Level 3 score ≥ 9) (4 sh)
- MATH 1560 Math II: Multivariable Calculus (P: MATH:1550) (4 sh)
- CHEM:1110 Principles of Chemistry I (P: ALEKS score ≥ 75 or MPT Level 3 score ≥ 9) (4 sh)
- PHYS:1611 Introductory Physics I / Lab (C: MATH:1550) (4 sh)

### Engineering Core (7 sh)
- ENGR:1000 Engineering Success for First-Year Students (First semester standing) (1 sh)
- ENGR:1100 Intro to Engineering Problem Solving (3 sh)
- ENGR:1300 Intro to Engineering Computing (C: MATH:1550) (3 sh)

### EnvE Requirements (58 sh)
- BIOL:1411 Foundations of Biology (P: CHEM:1110) (4 sh)
- CHEM:1120 Principles of Chemistry II (P: CHEM:1110 with a minimum grade of C-) (4 sh)
- CHEM:2210 Organic Chemistry I (no lab required) (3 sh)
- ENGR:2110 Statics (P: MATH:1550; C: MATH:1560 & PHYS:1611) (2 sh)
- ENGR:2130 Thermodynamics (P: CHEM:1110 & PHYS:1611; C: MATH:1560) (3 sh)
- ENGR:2510 Fluid Mechanics (P: MATH:2560 & ENGR:2710; C: ENGR:2130) (4 sh)
- ENGR:2710 Dynamics (P: ENGR:2110 & MATH:1550) (3 sh)
- ENGR:2720 Materials Science (P: CHEM:1110; C: MATH:1550) (3 sh)
- EES:1080 Introduction to Environmental Science (no lab required) (3 sh)
- CEE:3155 Principles of Environmental Engineering (with Lab) (P: CHEM:1110) (4 sh)
- CEE:3371 Principles of Hydraulics and Hydrology (P: ENGR:2530) (3 sh)
- CEE:3430 Water Treatment (with Lab) (P: ENGR:2510 & CEE:3155) (4 sh)
- CEE:4102 Groundwater (3 sh)
- CEE:4150 Environmental Chemistry (P: CHEM:1120) (3 sh)
- CEE:4157 Environmental Engineering Design (P: CEE:3155) (3 sh)
- CEE:4158 Solid and Hazardous Wastes (3 sh)
- CEE:4159 Air Pollution Control Technology (3 sh)
- CEE:4374 Water Resources Design (P: CEE:3371) (3 sh)

### CEE Capstone Design Courses (3 sh)
- CEE:4850 Project Design & Management in CEE (P: final semester; C: CEE:3003) (3 sh)

### CEE Professional Skills (4 sh)
- CEE:1010 Introduction to Careers in Env. Engineering (0 sh)
- CEE:2010 Professional Practice and Ethics (1 sh)
- CEE:3001 Leadership Skills for Engineers (junior standing) (1 sh)
- CEE:3002 Technical Communication in CEE (sophomore standing) (1 sh)
- CEE:3003 Project Management Skills (senior standing) (1 sh)

### Required: Informatics (10 sh)
- CS:2110 Programming for Informatics (P: ENGR:1300) (4 sh)
- CS:2420 Analyzing Data for Informatics (P: CS:2110) (3 sh)

### Electives: Informatics (6 sh)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Any 3000 level or above course(s) in CEE</td>
<td>2</td>
</tr>
<tr>
<td>CEE:2015 Civil Engineering Tools</td>
<td>2</td>
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<tr>
<td>ISE:2500 Engineering Economy (C: STAT:2020)</td>
<td>3</td>
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<tr>
<td>ENGR:2995 Intro to AI &amp; Machine Learning in Engineering (P: ENGR:1300; C: MATH:2550)</td>
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<tr>
<td>ENGR:2730 Computers in Engineering (P: ENGR:1300)</td>
<td>3</td>
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<tr>
<td>GEOG:1050 Foundations of GIS</td>
<td>4</td>
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<tr>
<td>GEOG:3210 Health Work and Environment</td>
<td>3</td>
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<tr>
<td>OEH:4210 Global Environmental Health</td>
<td>3</td>
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<tr>
<td>ENGR:2730 Computers in Engineering (P: ENGR:1300)</td>
<td>3</td>
</tr>
<tr>
<td>CHEM:1120 Principles of Chemistry II (P: CHEM:1110)</td>
<td>4</td>
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<tr>
<td>EES:1080 Introduction to Environmental Science (no lab required)</td>
<td>3</td>
</tr>
<tr>
<td>CEE:3155 Principles of Environmental Engineering (with Lab) (P: CHEM:1110)</td>
<td>4</td>
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<tr>
<td>CEE:3371 Principles of Hydraulics and Hydrology (P: ENGR:2530)</td>
<td>3</td>
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<td>CEE:3430 Water Treatment (with Lab) (P: ENGR:2510 &amp; CEE:3155)</td>
<td>4</td>
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<td>CEE:4102 Groundwater</td>
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</table>

All other course(s) require approval for Focus Area credit
(see CEE web site regarding the approval process)

Students in the Focus Area will receive a Minor in Informatics. Students must enroll in the minor through Computer Science.

**Total Semester Hours Requirements:** 130