

B.S. in Environmental Engineering Requirements

Required Core Courses

Total: 25 hours

| | | |
|--------------|---|---|
| CEVE 101 (F) | Fundamentals of CEVE | 2 |
| CEVE 211 (F) | Engineering Mechanics | 3 |
| CEVE 310 (F) | Principles of Environmental Engineering | 3 |
| CEVE 315 (S) | Urban Water Systems | 3 |
| CEVE 316 (S) | Urban Water Systems Lab. | 1 |
| CEVE 363 (S) | Applied Fluid Mechanics | 3 |
| CEVE 411 (F) | Atmospheric Chemistry & Climate | 3 |
| CEVE 412 (F) | Hydrology & Water Resources Engineering | 3 |
| CEVE 481 (F) | Introduction to Senior Design | 1 |
| CEVE 482 (S) | Senior Design | 3 |

Required Science and Math Courses

Total: 36 hours

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|----------|---|---|
| BIOS 201 | Introductory Biology | 3 |
| CMOR 220 | Introduction to Engineering Computation | 3 |
| CHEM 121 | General Chemistry I | 3 |
| CHEM 122 | General Chemistry II | 3 |
| CHEM 123 | General Chemistry I Laboratory | 1 |
| CHEM 124 | General Chemistry II Laboratory | 1 |
| EEPS 107 | Climate Change and Extreme Weather | 3 |
| MATH 101 | Single Variable Calculus I or MATH 105 | 3 |
| MATH 102 | Single Variable Calculus II or MATH 106 | 3 |
| MATH 211 | Ordinary Differential Eqs. and Linear Algebra | 3 |
| MATH 212 | Multivariable Calculus or MATH 232 | 3 |
| PHYS 101 | Mechanics with Lab | 4 |
| PHYS 103 | Mechanics Discussion | 0 |
| STAT 310 | Probability and Statistics | 3 |

(or STAT 305 Intro to Stat for Biosciences)

Suggested Electives

Any CEVE course not taken to fulfill a Focus Area requirement can be taken as an elective. Other suggestions are listed below

| | | |
|----------|---|---|
| ANTH 320 | Climate Change and Social Inequality | 3 |
| BIOS 271 | Environmental Management | 3 |
| BIOS 374 | Global Change Biology | 3 |
| BIOS 559 | Sustainability Impact Assessments | 3 |
| EEPS 434 | Climate of the Common Era | 3 |
| EEPS 436 | GIS for Scientists and Engineers | 3 |
| EEPS 484 | Decision Making and Econ in the Energy Industry | 3 |
| ENST 202 | Culture, Energy & Environment | 3 |
| ENST 210 | Sustainable Futures | 3 |
| ENST 250 | Understanding Energy | 3 |
| ENST 281 | Engineering Sustainable Communities | 3 |
| ENST 301 | Environmental Justice | 3 |
| ENST 313 | Case Studies in Sustainable Design | 3 |
| ENST 315 | Environmental Health | 3 |
| ENST 322 | Case Studies in Sustainability | 3 |
| ENST 332 | The Social Life of Clean Energy | 3 |
| ENST 415 | The Environmental Movement | 3 |
| ENST 437 | Energy Economics | 3 |
| HEAL 375 | The Built Environment and Public Health | 3 |
| STAT 485 | Environmental Statistics and Decision Making | 3 |

See complete BSENVE Degree requirements in General Announcements (to be posted soon)

Overall Hours

Required Core Courses – 25 hrs

Focus Area General Courses* – 24 hrs

Focus Area Specialization Courses* – 6 hrs

Required Math & Science Courses – 36 hrs

Addl. Required Distribution Courses – 18 hrs

Open Electives/FWIS/LPAP – 15 hrs

Total – 124 hrs

*at least 20 Focus Area hrs from CEVE courses

Select 6 credit hours in each Focus Area I-IV below. Select Focus Area I, II, III or IV as a specialization, and select an additional 6 credit hours in this focus area.

I Focus Area I Sustainable Water

| | | |
|--------------|--|---|
| CEVE 314 (F) | Sustainable Water Purif. For Devlp. World | 3 |
| CEVE 401 (S) | Environmental Chemistry | 3 |
| CEVE 420 (S) | Environmental Remediation & Restoration | 3 |
| CEVE 426 (F) | Smart Materials for the Environment | 3 |
| CEVE 434 (F) | Fate and Transport of Contaminants | 3 |
| CEVE 444 (F) | Environmental Microbiology & Microbial Ecol. | 3 |

II Focus Area II Air, Climate, and Energy

| | | |
|--------------|---|---|
| CEVE 302 (F) | Sustainable Design | 3 |
| CEVE 307 (F) | Energy and the Environment | 3 |
| CEVE 414 (F) | Coastal Hazards in a Changing Climate | 3 |
| EEPS 433 (F) | Climate Dynamics | 3 |
| EEPS 437 (F) | Earth's Natural Resources | 3 |
| EEPS 438 (F) | Nature-Based Carbon Sequestration | 3 |
| EEPS 471 (F) | Earth Systems Modeling I: Philosophy & Fundamentals | 3 |
| EEPS 472 (S) | Earth Systems Modeling: Numerical Techniques and Applications | 3 |

III Focus Area III Resilient Infrastructure, Disasters, and Risk

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|--------------|--------------------------------------|---|
| CEVE 424 (F) | System Reliability Methods | 3 |
| CEVE 425 (F) | Sustainable Infrastructure Materials | 3 |
| CEVE 452 (S) | Urban Transportation Systems | 3 |
| CEVE 518 (F) | Environmental Hydrogeology | 3 |
| CEVE 543 (F) | Data-Driven Climate Hazard | 3 |
| EEPS 432 (F) | Quantitative Hydrogeology | 3 |

IV Focus Area IV Environmental Management

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|--------------|---|---|
| CEVE 301 (S) | Eng. Economics & Project Management. | 3 |
| CEVE 313 (S) | Uncertainty and Risk in Urban Infrastructures | 3 |
| CEVE 320 (F) | Ethics & Engineering Leadership | 3 |
| CEVE 406 (S) | Intro to Environmental Law | 3 |
| CEVE 421 (S) | Climate Risk Management | 3 |
| EEPS 435 (S) | Remote Sensing | 3 |