Duluth Campus

Environmental Science Minor

D Earth & Environmental Sci

Swenson College of Science and Engineering

- Program Type: Undergraduate minor related to major
- Requirements for this program are current for Fall 2017
- Required credits in this minor: 28

The environmental science minor enhances a student's understanding of the scope of environmental problems, the biochemical and physical processes of environmental degradation, the sciences of non-renewable and renewable resources, and economic and political issues surrounding environmental problems. The minor provides valuable background for many environmental careers and applications.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Minor Requirements

ES Minor Requirements (24 cr)

EES 1110 - Geology and Earth Systems [LE CAT, NAT SCI, SUSTAIN] (4.0 cr)
EES 2210 *{Inactive}*(4.0 cr)
EES 3201 - Environmental Resources and Remediation (3.0 cr)
EES 3202 - Energy Resources (3.0 cr)

Chemistry I with lab

CHEM 1153 - General Chemistry I [LE CAT, NAT SCI] (4.0 cr)
CHEM 1154 - General Chemistry Lab I [LE CAT, NAT SCI] (1.0 cr)

Chemistry II with lab

CHEM 1155 - General Chemistry II (4.0 cr)
CHEM 1156 - General Chemistry Lab II (1.0 cr)

Minor Electives (4 cr)

Take 2 or more course(s) totaling 4 or more credit(s) from the following:

- BIOL 3760 - Marine Biology (3.0 cr)
- BIOL 3761 - Field Studies in Marine Biology (4.0 cr)
- BIOL 3830 *{Inactive}*(3.0 cr)
- BIOL 3835 - Freshwater Ecology (3.0 cr)
- BIOL 4839 - Coral Reef Field Studies [GLOBAL PER] (3.0 cr)
- BIOL 5777 *{Inactive}*(2.0 cr)
- BIOL 5801 - Microbial Ecology (2.0 cr)
- BIOL 5802 *{Inactive}*(2.0 cr)
- BIOL 5805 - Fisheries Ecology and Management (3.0 cr)
- BIOL 5807 - Mathematical Ecology (3.0 cr)
- BIOL 5808 *{Inactive}*(3.0 cr)
- BIOL 5833 - Stream Ecology (3.0 cr)
- BIOL 5861 - Lake Ecology (3.0 cr)
- BIOL 5863 - Ecosystems Ecology (3.0 cr)
- BIOL 5865 - Conservation Biology (2.0 cr)
- BIOL 5870 - Wetland Ecology (3.0 cr)
- CHE 2111 - Material and Energy Balances (3.0 cr)
- CHE 2121 - Chemical Engineering Thermodynamics (3.0 cr)
- CHE 3111 - Fluid Mechanics (3.0 cr)
- CHE 5022 *{Inactive}*(3.0 cr)
- CHEM 2541 - Organic Chemistry I (3.0 cr)
- CHEM 2542 - Organic Chemistry II (3.0 cr)
- CHEM 2543 - Organic Chemistry I Laboratory (1.0 cr)
- CHEM 2544 - Organic Chemistry II Laboratory (1.0 cr)
- ECON 3721 - Natural Resource and Energy Economics (3.0 cr)
- ECON 3777 - Environmental Economics (3.0 cr)
- GEOG 3422 - Natural Hazards (3.0 cr)

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- GEOG 3461 - Geography of Global Resources (3.0 cr)
- GEOG 4446 - Water Processes and Management (3.0 cr)
- GEOG 4451 - The Geography of Soils (4.0 cr)
- EES 3210 *{Inactive}*(4.0 cr)
- GEOL 3710 *{Inactive}*(3.0 cr)
- GEOL 3800 *{Inactive}*(4.0 cr)
- EES 4355 - Economic Geology (4.0 cr)
- EES 4710 - Geochemistry (4.0 cr)
- EES 5210 - Glacial and Quaternary Geology (4.0 cr)
- EES 5220 *{Inactive}*(3.0 cr)
- GEOL 5240 *{Inactive}*(4.0 cr)
- EES 5250 - Hydrogeology (4.0 cr)
- EES 5251 - Well Hydraulics (3.0 cr)
- GIS 3563 - Geographic Information Science I: Theory and Analysis (4.0 cr)
- GIS 5572 - Environmental Application of GIS (4.0 cr)
- GIS 5581 - Digital Image Processing and Analysis (4.0 cr)
- LIM 5004 *{Inactive}*(2.0 cr)
- LIM 5101 - Physical Limnology (3.0 cr)
- LIM 5102 - Chemical Limnology (3.0 cr)
- LIM 5103 - Geological Paleolimnology (3.0 cr)
- MATH 3280 - Differential Equations with Linear Algebra (4.0 cr)
- PHYS 5053 - Data Analysis Methods in Physics (3.0 cr)
- PHYS 5541 - Fluid Dynamics (3.0 cr)
- STAT 5411 - Analysis of Variance (3.0 cr)
- GEOG 3401 - Weather and Climate (3.0 cr)
  or EES 3100 *{Inactive}*(3.0 cr)

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