



### **Duluth Campus**

## **Environment and Sustainability B.A.**

*Geography & Philosophy*

### **College of Arts, Humanities and Social Sciences**

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2015
- Required credits to graduate with this degree: 120
- Required credits within the major: 86
- This program requires summer terms.
- Degree: Bachelor of Arts

The environment and sustainability program provides a sound interdisciplinary grounding in the natural sciences, social sciences, and the humanities, producing graduates who understand and think creatively about complex global environmental and social problems. The curriculum encourages multidisciplinary thinking and problem-solving skills at the nexus of the natural sciences and social sciences. Coursework develops skills in research, writing, creative thinking, and sound policy making, as students draw upon a range of disciplines to understand and solve specific issues and problems.

Honors Requirements: Candidates must be majors with a 3.00 overall GPA and 3.30 in the major. Students must complete an honors project supervised by a faculty member and approved by the program director. In some cases, the project may develop out of the environment and sustainability internship. Students must notify the director of their intent to participate in the honors program by the end of the first week of the semester of graduation and the completed project must be approved by the faculty adviser and the director at least 30 days before the end of the term. The project is presented orally or by exhibition.

### **Program Delivery**

This program is available:

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

### **Admission Requirements**

For information about University of Minnesota admission requirements, visit the [Office of Admissions website](#).

#### **Required prerequisites**

##### **Introductory Requirement (1 cr)**

Transfer students with 24 or more credits and current UMD students who change colleges to CLA are exempt from this requirement. New first-year students with 24 or more PSEO credits may request to be waived from this requirement.

[UST 1000](#) - Learning in Community (1.0 - 2.0 cr)

### **General Requirements**

The Board of Regents, on recommendation of the faculty, grants degrees from the University of Minnesota. Requirements for an undergraduate degree from University of Minnesota Duluth include the following:

1. Students must meet all course and credit requirements of the departments and colleges or schools in which they are enrolled including an advanced writing course. Students seeking two degrees must fulfill the requirements of both degrees. However, two degrees cannot be awarded for the same major.
2. Students must complete all requirements of the [Liberal Education Program](#).
3. Students must complete a minimum of 120 semester credits.
4. At least 30 of the last 60 degree credits earned immediately before graduation must be awarded by UMD.
5. Students must complete at least half of their courses at the 3xxx-level and higher at UMD. Study-abroad credits earned through courses taught by UM faculty and at institutions with which UMD has international exchange programs may be used to fulfill this requirement.
6. If a minor is required, students must take at least three upper division credits in their minor field from UMD.
7. The minimum cumulative UM GPA required for graduation will be 2.00 and will include only University of Minnesota coursework. A minimum UM GPA of 2.00 is required in each UMD undergraduate major and minor. No academic unit may impose higher grade point standards to graduate.
8. Diploma, transcripts, and certification will be withheld until all financial obligations to the University have been met.

## Program Requirements

### Environment and Sustainability Core (19 cr)

- ES 1001 ~~(Inactive)~~ (2.0 cr)
- ES 2803 - Issues in Global Ecology [LE CAT] (3.0 cr)
- ES 3100 - Sustainable Food Systems (4.0 cr)
- ES 3500 - Ecological Economics (3.0 cr)
- ES 4010 - Seminar (4.0 cr)
- ES 4090 - Internship Preparation & Career Development (1.0 cr)
- ES 4097 - Internship (3.0 cr)

### Natural Science Core (22 cr)

- BIOL 1011 - General Biology I [LE CAT, NAT SCI] (5.0 cr)
- BIOL 1012 - General Biology II [SUSTAIN] (5.0 cr)
- BIOL 2801 - General Ecology (3.0 cr)
- 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)
- GEOG 1414 - The Physical Geography [LE CAT, NAT SCI, SUSTAIN] (4.0 cr)
- or EES 1110 - Geology and Earth Systems [LE CAT, NAT SCI, SUSTAIN] (4.0 cr)

### Social Science Core (26 cr)

#### Economics

- ECON 1023 - Principles of Economics: Micro [LE CAT, SOC SCI] (3.0 cr)
- ECON 3721 - Natural Resource and Energy Economics (3.0 cr)
- or ECON 3777 - Environmental Economics (3.0 cr)

#### Geography

- GIS 3563 - Geographic Information Science I: Theory and Analysis (4.0 cr)
- GEOG 4612 ~~(Inactive)~~ (4.0 cr)
- GEOG 3335 - Urban Planning (3.0 cr)
- or GEOG 4451 - The Geography of Soils (4.0 cr)

#### Political Science

- POL 1011 - American Government and Politics [LE CAT6, SOC SCI] (3.0 cr)
- POL 3080 - Environment and Politics (3.0 cr)
- or POL 3170 ~~(Inactive)~~ (3.0 cr)
- or POL 3570 - Politics of Developing Nations (3.0 cr)

#### Sociology

- SOC 3901 - Social Change and Social Policy (3.0 cr)
- or SOC 4860 - Environmental Sociology [SUSTAIN] (3.0 cr)

### Supporting Core (7 cr)

#### Math Requirement

Take no more than 1 course(s) from the following:

- MATH 1160 - Finite Mathematics and Introduction to Calculus [LE CAT, LOGIC & QR] (5.0 cr)
- MATH 1250 - Precalculus Analysis [LE CAT2, LOGIC & QR] (4.0 cr)
- MATH 1290 - Calculus for the Natural Sciences [LE CAT2, LOGIC & QR] (5.0 cr)
- MATH 1296 - Calculus I [LE CAT, LOGIC & QR] (5.0 cr)
- MATH 1297 - Calculus II [LOGIC & QR] (5.0 cr)
- MATH 1596 ~~(Inactive)~~ [LE CAT2, LOGIC & QR] (5.0 cr)
- MATH 1597 ~~(Inactive)~~ [LOGIC & QR] (5.0 cr)

#### Statistical Requirement

STAT 2411 preferred; if GIS 3585 or SOC 2155 is taken, neither can apply as an elective course.

Take no more than 1 course(s) from the following:

- ECON 2030 - Applied Statistics for Business and Economics [LOGIC & QR] (3.0 cr)
- ECON 3030 - Econometrics I (3.0 cr)
- GIS 4585 - Advanced GIS Analytics (4.0 cr)
- POL 2700 - Methodology and Analysis [LOGIC & QR] (4.0 cr)
- PSY 3020 - Statistical Methods (4.0 cr)
- SOC 2155 - Introduction to Research Methods and Analysis (4.0 cr)
- STAT 2411 - Statistical Methods [LE CAT, LOGIC & QR] (3.0 cr)
- STAT 3xxx
- STAT 4xxx

### Environment and Sustainability Electives (8 cr)

Students propose at least four elective courses above the 2xxx level; courses already taken may or may not be accepted. Since the major does not require a second field of study, only two proposed courses can be applicable to a second major or minor. Students must consult with their adviser before selecting their elective courses.



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

See the ES website for the proposal form: <http://www.d.umn.edu/geog/ES/main/about.php>

- (Student proposes courses)

**Advanced Writing Requirement (3 cr)**

Any WRIT 31xx course will satisfy this requirement.