ENVIRONMENTAL SCIENCE (BS)

The Bachelor of Science degree in Environmental Science is a broad, science-based curriculum designed to prepare students for a variety of environmentally-related technical careers, as well as for graduate programs in environmental and allied fields. The program requires 192 credit hours and draws upon the faculty and resources of several departments. Majors take core courses in Biology, Chemistry, Environmental Science, Mathematics, and Physics, advanced study in Environmental Science and five university-wide electives.

<table>
<thead>
<tr>
<th>Program Requirements</th>
<th>Quarter Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberal Studies Requirements</td>
<td>76</td>
</tr>
<tr>
<td>Major Requirements</td>
<td>96</td>
</tr>
<tr>
<td>Open Electives</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total hours required</strong></td>
<td><strong>192</strong></td>
</tr>
</tbody>
</table>

**Learning Outcomes**

Students will be able to:

- Discuss how the four spheres of the natural world (biosphere, hydrosphere, atmosphere, and lithosphere) are interconnected for a given environmental issue.
- Demonstrate how humans impact the natural world and how the natural world impacts humans, including in the context of social and environmental justice.
- Critically evaluate the science behind complex environmental problems that humans currently face both locally and globally.
- Design and conduct a scientific investigation using appropriate tools and techniques to gather, analyze, and interpret data and communicate results in oral and written form.

**College Core Requirements**

**Modern Language Requirements**

Students who intend to graduate with the Bachelor of Arts (BA) degree will be required to demonstrate competence in a modern language equivalent to the proficiency attained from one year of college-level language study. Such competence may be demonstrated in one of several ways:

- completing the last course in the fourth-year high school sequence of any language
- completing the last course in the first-year college sequence of any language
- completing a college course beyond the first-year level in any language
- achieving a satisfactory score on any of the Modern Language placement examinations administered at DePaul
- achieving a satisfactory rating in a proficiency examination accepted by DePaul
- achieving a score of 3 or higher on the Advance Placement (AP) test for any language
- achieving a score of 5 or higher in the Language B assessment from a Standard or Higher Level International Baccalaureate (IB) program
- achieving a satisfactory score on the CLEP examination

Please note: Modern Languages courses with an E-designation are taught in English and may not be applied to the Modern Language Requirement.

For further information regarding satisfactory scores and possible credit from the DePaul placement, AP, CLEP, or IB examinations, please contact Student Records.

Students who complete an Inter-College Transfer (ICT) to the College of Science and Health will abide by the College of Science and Health Modern Language Requirement in place on the effective date of the ICT.

BA students who meet College requirements and wish to pursue further work in the language may elect the “Modern Language Option” of the Liberal Studies Program. While Bachelor of Science (BS) students are not required to demonstrate competency in a modern language, the “Modern Language Option” is available to them for language study at any level. Modern Languages courses with an E-designation are taught in English and may not be applied to the Modern Language Option.

**Major Declaration Requirements**

All students in the College are required to declare a major field prior to beginning their junior year. After researching College programs, the student should declare a major field by visiting Campus Connection and using the Declarations and Inter-College Transfer tool. The student will then be assigned a faculty advisor or staff advisor in the department or program and should make an appointment to see that advisor at his or her earliest convenience.

To change major fields, or to declare a minor or concentration, the student must use the Declarations and Inter-College Transfer tool described above. However, for the purpose of exploring the possibility of changing a major field, the student should consult an academic advisor in the College or an academic advisor in the Office for Academic Advising Support.

**Liberal Studies Requirements**

Honors program requirements can be found in the individual Colleges & Schools section of the University Catalog. Select the appropriate college or school, followed by Undergraduate Academics and scroll down.

<table>
<thead>
<tr>
<th>First Year Program</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chicago Quarter</strong></td>
<td></td>
</tr>
<tr>
<td>LSP 110 or LSP 111</td>
<td></td>
</tr>
<tr>
<td>DISCOVER CHICAGO or EXPLORE CHICAGO</td>
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</tr>
</tbody>
</table>
Students must earn a C- or better in this course.

Students with a primary major in Environmental Science are required to complete the Capstone offered by the Environmental Science department. Students double majoring or pursuing dual degrees with the primary major or primary degree in Environmental Science are required to complete the Capstone offered by the Environmental Science department. Environmental Science students in the University Honors Program shall take the University Honors Capstone. They are not expected to take both the Honors Capstone and the primary major or primary degree Capstone.

### Learning Domains

**Arts and Literature (AL)** ([link](https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/arts-and-literature/))
- 3 Courses Required

**Historical Inquiry (HI)** ([link](https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/historical-inquiry/))
- 2 Courses Required

**Math and Computing (MC)** ([link](https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/math-and-computing/))
- Not Required

**Philosophical Inquiry (PI)** ([link](https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/philosophical-inquiry/))
- 2 Courses Required

**Religious Dimensions (RD)** ([link](https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/religious-dimensions/))
- 2 Courses Required

**Scientific Inquiry (SI)** ([link](https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/scientific-inquiry/))
- Not Required

**Social, Cultural, and Behavioral Inquiry (SCBI)** ([link](https://catalog.depaul.edu/undergraduate-core/liberal-studies-program/liberal-studies-learning-domains/social-cultural-and-behavioral-inquiry/))
- 3 Courses Required

### Notes

Courses offered in the student’s primary major cannot be taken to fulfill LSP Domain requirements. (Courses in the range 150-199 are exceptions to this rule.) If students double major, LSP Domain courses may double count for both LSP credit and the second major. Students who choose to take an experiential learning course offered by the major may count it either as a general elective or the Experiential Learning requirement.

In meeting learning domain requirements, no more than one course that is outside the student’s major and is cross-listed with a course within the student’s major, can be applied to count for LSP domain credit. This policy does not apply to those who are pursuing a double major or earning BFA or BM degrees.

Students are advised to talk with their advisor before double majoring, because some major combinations are prohibited. No more than 50% of the credits that apply to one major may be drawn from another major.

### Major Requirements

#### Course Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Quarter</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENV 250</td>
<td>APPLIED ECOLOGY</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>or BIO 215</td>
<td>ECOLOGY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENV 216</td>
<td>EARTH SYSTEM SCIENCE</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>ENV 217</td>
<td>HUMAN IMPACTS ON THE ENVIRONMENT</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>ENV 260</td>
<td>ENVIRONMENTAL DATA ANALYSIS</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>or BIO 206</td>
<td>BIOSSTATISTICS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENV 294</td>
<td>SECOND YEAR SEMINAR</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>ENV 360</td>
<td>RESEARCH METHODS</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>ENV 362</td>
<td>SENIOR THESIS</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>ENV 350</td>
<td>ENVIRONMENTAL SCIENCE AND STUDIES</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>CAPSTONE (Liberal Studies Program Capstone)</td>
<td></td>
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</tr>
<tr>
<td>Select three of the following:</td>
<td></td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>ENV 300</td>
<td>PLANT IDENTIFICATION (WITH LAB)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENV 305</td>
<td>ANIMAL DIVERSITY</td>
<td></td>
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<tr>
<td>ENV 310</td>
<td>ENVIRONMENTAL SOIL SCIENCE (WITH LAB)</td>
<td></td>
<td></td>
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<tr>
<td>ENV 315</td>
<td>PLANT ECOLOGY (WITH LAB)</td>
<td></td>
<td></td>
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<tr>
<td>ENV 316</td>
<td>CHEMISTRY OF EARTH SYSTEMS (WITH LAB)</td>
<td></td>
<td></td>
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<tr>
<td>ENV 320</td>
<td>CONSERVATION BIOLOGY (WITH LAB)</td>
<td></td>
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<tr>
<td>ENV 322</td>
<td>ECOSYSTEM BIOLOGY (WITH LAB)</td>
<td></td>
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<tr>
<td>ENV 340</td>
<td>URBAN ECOLOGY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENV 341</td>
<td>URBAN FORESTS AS SOCIAL-ECOLOGICAL SYSTEMS (WITH LAB)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENV 356</td>
<td>INTRODUCTION TO ENVIRONMENTAL HEALTH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENV 359</td>
<td>ADVANCED ENVIRONMENTAL DATA ANALYSIS WITH R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ENV 390</td>
<td>SPECIAL TOPICS IN ENVIRONMENTAL SCIENCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 191</td>
<td>GENERAL BIOLOGY I FOR SCIENCE MAJORS</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>BIO 192</td>
<td>GENERAL BIOLOGY II FOR SCIENCE MAJORS</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>BIO 193</td>
<td>GENERAL BIOLOGY III FOR SCIENCE MAJORS</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Select one of the following:</td>
<td></td>
<td>4-6</td>
<td></td>
</tr>
<tr>
<td>CHE 130</td>
<td>GENERAL CHEMISTRY I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&amp; CHE 131</td>
<td>GENERAL CHEMISTRY I LABORATORY</td>
<td></td>
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<tr>
<td>CHE 120</td>
<td>GENERAL CHEMISTRY IP</td>
<td></td>
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</tr>
<tr>
<td>&amp; CHE 131</td>
<td>GENERAL CHEMISTRY I LABORATORY</td>
<td></td>
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</tr>
</tbody>
</table>
Environmental Science (BS)

Select one of the following: 4-6

CHE 132 & CHE 133
GENERAL CHEMISTRY II and GENERAL CHEMISTRY LABORATORY II

CHE 122 & CHE 133
GENERAL CHEMISTRY IIIP and GENERAL CHEMISTRY LABORATORY II

CHE 134 & CHE 135
GENERAL CHEMISTRY III and GENERAL CHEMISTRY LABORATORY III

Select one of the following: 4-6

MAT 147
CALCULUS WITH INTEGRATED PRECALCULUS I

MAT 150
CALCULUS I

MAT 170
CALCULUS FOR LIFE SCIENCES I

Select one of the following: 4-6

MAT 148
CALCULUS WITH INTEGRATED PRECALCULUS II

MAT 151
CALCULUS II

MAT 171
CALCULUS FOR LIFE SCIENCES II

Select one of the following: 4-6

MAT 149
CALCULUS WITH INTEGRATED PRECALCULUS III

MAT 152
CALCULUS III

MAT 172
CALCULUS III WITH DIFFERENTIAL EQUATIONS

Alternatively, to complete the calculus sequence, select both of the following:

MAT 155
SUMMER CALCULUS I

MAT 156
SUMMER CALCULUS II

PHY 150
GENERAL PHYSICS I

PHY 151
GENERAL PHYSICS II

PHY 152
GENERAL PHYSICS III

Select three courses from within one discipline in consultation with your advisor: 12

Biology

BIO 210
MICROBIOLOGY

BIO 235
EVOLUTION

BIO 260
GENETICS

BIO 315
TOPICS IN ECOLOGY

BIO 317
AQUATIC BIOLOGY

BIO 318
FIELD STUDIES IN MARINE AND ESTUARINE BIOLOGY

BIO 321
MOLECULAR METHODS IN ECOLOGY AND EVOLUTION

Chemistry

CHE 230 & CHE 231
ORGANIC CHEMISTRY I and ORGANIC CHEMISTRY LABORATORY I

CHE 232 & CHE 233
ORGANIC CHEMISTRY II and ORGANIC CHEMISTRY LABORATORY II

CHE 234 & CHE 235
ORGANIC CHEMISTRY III and ORGANIC CHEMISTRY LABORATORY III

CHE 204 & CHE 205
ANALYTICAL CHEMISTRY and ANALYTICAL CHEMISTRY LABORATORY

CHE 264 & CHE 265
ATMOSPHERIC CHEMISTRY and ATMOSPHERIC CHEMISTRY LABORATORY

CHE 268 & CHE 269
SOLID WASTE CHEMISTRY and SOLID WASTE CHEMISTRY LABORATORY

CHE 340 & CHE 341
BIOCHEMISTRY I and EXPERIMENTAL BIOCHEMISTRY I

Geography (GIS)

GEO 241
GEOGRAPHIC INFORMATION SYSTEMS I: DIGITAL MAPPING

GEO 242
GEOGRAPHIC INFORMATION SYSTEMS II: COMMUNITY GIS

GEO 243
EARTH OBSERVATION

GEO 343
EARTH OBSERVATION II

GEO 344
GEOGRAPHIC INFORMATION SYSTEMS III: SPATIAL ANALYSIS FOR SUSTAINABILITY

1 Students in the University Honors Program and students with a double major may be required to take a different Capstone. If this is the case, they may choose to substitute ENV 350 as one of their required 300-level ENV courses or as an open elective.

2 Each quarter one or more versions of ENV 390 are offered. Some might be applicable to your major requirements. Please contact your advisor for details.

Environmental Science (BS) students are not eligible to earn a double major in Environmental Studies (BA)

Open Electives

Open elective credit also is required to meet the minimum graduation requirement of 192 hours.