Environmental Science (BS) Guidelines

<table>
<thead>
<tr>
<th>College:</th>
<th>Arts &amp; Sciences</th>
</tr>
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<tbody>
<tr>
<td>Degree:</td>
<td>BS</td>
</tr>
<tr>
<td>Limited Access:</td>
<td>NO</td>
</tr>
</tbody>
</table>
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**Description of Major**

Environmental Science is the interdisciplinary study of environmental systems from a scientific perspective. Drawing principally from the areas of oceanography, geology, meteorology, biology and chemistry, the Environmental Science program will prepare students in the broader area of geosciences and is an attractive option for students seeking a broader interdisciplinary major with the rigor of mathematics and the physical sciences at its core.

FSU offers both the BS and BA degrees in Environmental Science. The BA degree differs from the BS degree in lower-level mathematics requirements and a greater emphasis on policy. The goals of these programs are to prepare exceptionally well-qualified graduates prepared to work in the interdisciplinary earth sciences, whether in government agencies, NGOs, or the private sector. They also provide a strong basis for graduate study in environmental and interdisciplinary earth sciences.

**Prerequisite Coursework**  
27-20 hours

The following are being proposed as common program prerequisites.

- STA X122 (3) Intro. to Applied Statistics  
or ISC X523C (3) Research Methods
- MAC X311 (4) Calculus I  
  BSC X010, X010L (3,1) Biological Science I, Lab
- CHM X045, X045L (3,1-2) General Chemistry I, Lab
- PHY X048C (5) General Physics A with Lab  
  or PHY X053C (4) College Physics B with Lab
- BSC X011, X011L (3, 1) Biological Science II, Lab  
  or CHM X046, X046L (3,1) General Chemistry II, Lab
• **GLY X010C (4) Physical Geology with Lab**

  Note: State-wide common prerequisites are always under review. For the most current information and for acceptable alternative courses, visit the “Common Prerequisites Manual.” This is available from the “College Students” section of [http://FACTS.org/](http://FACTS.org/).

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**Requirements for graduation in the College of Arts & Sciences include**

The College of Arts and Science requires proficiency in a foreign language through the intermediate (2220 or equivalent) level or sign language through the advanced (2614 or equivalent) level.

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**Admission / Continuation Requirements to Major Programs of Study include**

Students should complete the prerequisite coursework for entrance to the major program of study. Students must also have completed a minimum of 52 hours of credit and at least half the required hours in Liberal Studies, including required English composition and Math, or an A.A degree. No required course in which a student has earned a grade below C- may be applied toward the degree in Environmental Science. A student who has received more than five unsatisfactory grades (U, F, D-, D, D+) in science, statistics, or mathematics courses (and their prerequisites) taken at Florida State University or elsewhere, including repeated unsatisfactory grades in the same course, will not be permitted to graduate with a degree in this major.

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**Mapping**

Mapping is FSU’s academic advising and monitoring system. Academic progress is monitored each Fall and Spring semester to ensure that students are on course to earn their degree in a timely fashion. Transfer students must meet mapping guidelines to be accepted into their majors. You may view the map for this major at [www.academic-guide.fsu.edu](http://www.academic-guide.fsu.edu).

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**Major Program of Studies at FSU**

**41-42 hours**

**Environmental Science Core Courses (16-18 hours)**

- **MET 1010 (3) Introduction to the Atmosphere** or **MET 2700 (3) General Meteorology**
- **OCE 4008 (3) Principles of Oceanography**
- **OCE 4017 (3) Current Issues in Environmental Science** or **GLY 3039 (3) Energy, Resources and Environment**
- **GLY 4751C (3) Intro. to Remote Sensing** or (if GLY4751 is not available) may substitute **GIS 4043** and **GIS 4043L (3,1) Geographic Information Processing & Systems, Lab**
Required Environmental Science Elective Courses (21 hours)

Select 21 hours, at least 9 of which must be from List 1. The remaining 12 hours may be selected from any of the three lists below. Substitutions for these elective courses require departmental permission.

List 1. Geoscience Elective Courses

- **GLY 2100** (3) Historical Geology
- **GLY 3200C** (3) Mineralogy and Crystallography
- **GLY 3610** (3) Paleontology
- **GLY 4511** (3) Sedimentation and Stratigraphy
- **GLY 4820** (3) Principles of Hydrology
- **MET 3103C** (3) Climate Change Science or **ISC 2003** (3) Global Change or **MET 2101** (3) Physical Climatology
- **MET 3220C** (3) Meteorological Computations
- **MET 3300** (3) Intro. to Atmospheric Dynamics
- **MET 4159r** (1-3) Selected Topics in Meteorology
- **EOC 4631** (3) Marine Pollution
- **OCB 4631** (3) Estuarine and Coastal Ecology
- **OCC 4060** (3) Environmental Science Modeling
- **OCE 4930r** (3) Oceanographic Studies (topics vary) – consent of instructor required
- **OCE 4XXX** (3) Environmental Science II. Habitable Planet (new number applied for)
- **OCP 4005** (3) Intro. to Physical Oceanography

List 2. Environmental Engineering Tools (these courses may be taken for an engineering focus)

- **EES 3040** (3) Intro to Environmental Engineering Science
- **EES 3040L** (1) Environmental Engineering Science Lab
- **EGN 2123** (2) Computer Graphics Engineering
- **CGN 2327L** (1) Civil Engineering Graphics Lab (continuation of EGN 2123)
- **CEG 2202C** (4) Site Investigation (teaches surveying techniques)
- **EGM 3512** (4) Engineering Mechanics

List 3. Graduate School Preparation

- **MAC 2312** (4) Calculus II
- **BSC 2011, 2011L** (3,2) Biology II, Lab or **CHM 1046, 1046L** (3,1) General Chemistry II (not to repeat, but in addition to the prerequisite)
- **CHM 2210** (3) Organic Chemistry I
- **CHM 2211** and **CHM 2211L** (3 and 3) Organic Chemistry II and Organic Chemistry II Lab
Collateral Minor  0 beyond required courses

Twelve hours of required coursework in the EOAS classes in Geology, Meteorology, and/or Oceanography constitute a minor in Earth, Ocean and Atmospheric Science. If a student takes 12 hours in any one of these subject areas then their collateral minor would be in that discipline. For instance, 12 hours of Geology would constitute a minor in Geology.

Computer Skills Competency  0 hours beyond other requirements

• BSC 2010L (1)

Oral Communication Competency  0-3 hours.

Students must demonstrate the ability to orally transmit ideas and information clearly. This requirement may be met through appropriate high school speech training or with an approved college-level approved course, such as SPC 1017 or SPC 2608.

Minimum Program Requirements Summary

<table>
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<tr>
<th>Requirement</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Total Hrs. Required</td>
<td>120</td>
</tr>
<tr>
<td>Liberal Studies</td>
<td>36*</td>
</tr>
<tr>
<td>BS Prerequisite Coursework</td>
<td>27-29*</td>
</tr>
<tr>
<td>BS Major Coursework</td>
<td>40-41*</td>
</tr>
<tr>
<td>BS Collateral Coursework</td>
<td>23-26*</td>
</tr>
<tr>
<td>Minor Coursework</td>
<td>0 beyond other requirements</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>0-12 (depending on placement)</td>
</tr>
<tr>
<td>Computer Skills</td>
<td>0 beyond major</td>
</tr>
<tr>
<td>Oral Communication Competency</td>
<td>0-3</td>
</tr>
<tr>
<td>Electives to bring total hours to</td>
<td>120</td>
</tr>
</tbody>
</table>

*Note: Some coursework required for this major (prerequisite/collateral/major) may also be applied to Liberal Studies or minor requirements.

Remarks
1. A minimum of 45 hours at the 3000 level or above, 30 of which must be taken at this University.
2. Half of the major course semester hours must be completed in residence at this University.
3. The final 30 hours must be completed in residence at this University.

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**Employment Information**

*Representative Job Titles Related to this Major:* Environmental technician, geoscientist, environmental scientist, hydrologist, general physical scientist, and oceanographer. Some positions may require additional education or training.

*Representative Employers:* Federal, state, and local governments; NGOs; private employers.