BACHELOR OF SCIENCE IN ENVIRONMENTAL STUDIES: CONCENTRATION IN NATURAL RESOURCE MANAGEMENT AND CONSERVATION – BIOL ASSOCIATE DEGREE FOR TRANSFER ROADMAP

This is a sample pathway for students who transfer to San Francisco State University in the current Bulletin year with an AS-T in Biology. Up to 15 units in the major (BIOL 230, BIOL 240, and CHEM 115) and all lower-division GE requirements have been satisfied. Check with a major advisor about the most appropriate course sequence. Degree completion guaranteed in 60 units; see the Associate Degree for Transfer (ADT) section for more information.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
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<tr>
<td>BIOL 458</td>
<td>Biometry (Major Core)</td>
<td>4</td>
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<tr>
<td>ENVS 130</td>
<td>Environmental Studies (Major Core, ES)</td>
<td>3</td>
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<tr>
<td>ENVS 224</td>
<td>Research Methods for Environmental Studies (Major Core)</td>
<td>4</td>
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<tr>
<td><strong>Physical Environment - Select One (Major Elective):</strong></td>
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<td>3</td>
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<tr>
<td>ERTH 230</td>
<td>Environmental Geology (B1, B3, ES)</td>
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<tr>
<td>GEOG 101</td>
<td>Our Physical Environment ((Prerequisite for GEOG 657 and many upper-division GEOG courses, B1, ES))</td>
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<tr>
<td>University Requirement - USH, USG/CSDLG, and UD-C</td>
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<td>3</td>
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<td></td>
<td><strong>Units</strong></td>
<td>17</td>
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<tr>
<td><strong>Second Semester</strong></td>
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<tr>
<td>ENVS 450GW</td>
<td>Environmental Law and Policy - GWAR (Major Core)</td>
<td>3</td>
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<tr>
<td>BIOL 530</td>
<td>Conservation Biology (Major Core)</td>
<td>3</td>
</tr>
<tr>
<td>Ecology - Select One (Major Elective)</td>
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<td>3-4</td>
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<tr>
<td>Biodiversity - Select One (Major Elective)</td>
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<td>3-5</td>
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<tr>
<td>GE Area UD-B: Upper-Division Physical and/or Life Sciences</td>
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<td>3</td>
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<td><strong>Units</strong></td>
<td>15</td>
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<tr>
<td><strong>Third Semester</strong></td>
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<tr>
<td>Select One (Major Core):</td>
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<td>3-4</td>
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1. **Select One:**
   - HIST 470 The U.S. Constitution to 1896 (3 units) (UD-C, CSLG, USG, USH, AERM, SJ)
   - HIST 471 The U.S. Constitution Since 1896 (3 units) (UD-C, CSLG, USG, USH, AERM, SJ)

2. **Ecology - Select One:**
   - BIOL 482 Ecology (4 units)
   - BIOL 529GW Plant Ecology - GWAR (4 units)
   - BIOL 532 Restoration Ecology (3 units)
   - BIOL 534 Wetland Ecology (4 units)
   - BIOL 582 Biological Oceanography (4 units)
   - BIOL 585 Marine Ecology (3 units)

3. **Biodiversity - Select One:**
   - BIOL 470 Natural History of Vertebrates (4 units)
   - BIOL 475GW Herpetology - GWAR (3 units)
   - BIOL 478GW Ornithology - GWAR (4 units)
   - BIOL 504 Biology of the Fungi (4 units)
   - BIOL 514 Plant Taxonomy (5 units)
   - BIOL 570GW Biology of Fishes - GWAR (4 units)
   Or a second course selected from the Ecology section
Resources - Select One:
- CHEM 380 Chemistry Behind Environmental Pollution (3 units) (UD-B, ES)
- GEOG 317 Geography of Soils (4 units)
- GEOG 427 Agriculture and Food Supply (4 units) (ES, GP)
- GEOG 646 The Geography of Marine Resources (4 units)
- GEOG 647 Geography of Water Resources (4 units)
- GEOG 666 Geography of Garbage: Recycling and Waste Reduction (3 units) (ES)
- RPT 640/ENVS 640 Recreational Use of National Parks and Protected Areas (3 units)

Resource Policy and Techniques - Select One:
- ENVS 470 Climate Politics and Policy (3 units) (ES, GP)
- ENVS 530 Environmental Leadership and Organizing (3 units)
- ENVS 570 Applied Local Sustainability (3 units) (ES)
- ENVS 306/ECON 306 Economics and the Environment (3 units)
- GEOG 652/USP 652 Environmental Impact Analysis (4 units)
- GEOG 658/USP 658 Land-Use Planning (4 units)

Sustainability and Social Justice - Select One:
- ENVS 306/ECON 306 Economics and the Environment (3 units)
- ENVS 570 Applied Local Sustainability (3 units) (ES)
- PHIL 470 Environmental Ethics (3 units) (UD-C, ES, SJ)
- USP 514 Sustainable Development in Cities (4 units) (ES, SJ)
- USP 515/GEOG 667 Environmental Justice: Race, Poverty, and the Environment (4 units) (ES, GP, SJ)

To Do at SF State:

Enough total units to reach 120 minimum for graduation; 30 units minimum at the upper-division level; to include the following:

University-Wide Requirements: 9-15 units
- American Institutions (0-6 units): US History, US Government, California State and Local Government if not taken before transfer. Courses required for the major or UD GE may double-count if approved for USH, USG, and/or CSLG.
- Upper-Division GE, Areas B, C, and D (9 units) – Courses required for the major may double-count if approved for UD GE.
- Students entering the major with the AS-T in BIOL are not required to fulfill SF State Studies requirements.

Environmental Studies Major: 47-57 units
- BIOL 230, BIOL 240, and CHEM 115 met before transfer
- Required (26-29 units)
- Electives (21-28 units) – one course from each of seven categories

University Electives: 2 or more units

Depends on course choices made at the community college, how transferred units are applied to the requirements above, and course choices at SF State - some courses may meet more than one requirement, e.g., in both UD GE and the major.