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>
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</thead>
<tbody>
<tr>
<td><strong>First Semester</strong></td>
<td></td>
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</tr>
<tr>
<td>BIOL 458</td>
<td>Biometry (Major Core)</td>
<td>4</td>
</tr>
<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>
</tr>
<tr>
<td><strong>Physical Environment - Select One (Major Elective):</strong></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>ERTH 230</td>
<td>Environmental Geology (B1, B3, ES)</td>
<td></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>
<td></td>
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<tr>
<td><strong>University Requirement - USH, USG/CSLG, and UD-C:</strong></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Units</strong></td>
<td></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>
</tr>
<tr>
<td>BIOL 530</td>
<td>Conservation Biology (Major Core)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Ecology - Select One (Major Elective):</strong></td>
<td></td>
<td>3-4</td>
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<tr>
<td><strong>Biodiversity - Select One (Major Elective):</strong></td>
<td></td>
<td>3-5</td>
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<tr>
<td><strong>GE Area UD-B: Upper-Division Physical and/or Life Sciences</strong></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td><strong>Units</strong></td>
<td></td>
<td>15</td>
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<tr>
<td><strong>Third Semester</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Select One (Major Core):</td>
<td></td>
<td>3-4</td>
</tr>
</tbody>
</table>

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

GEOG 603  Introduction to Geographic Information Systems
GEOG/USP 652  Environmental Impact Analysis
GEOG/USP 658  Land-Use Planning
Global/International - Select One (Major Elective): 3-4
ENVS/I R 331  Global Environmental Crisis (ES, GP, SJ)
ENVS 470  Climate Politics and Policy (ES, GP)
GEOG/I R 428  International Political Economy of Food and Hunger
Resources - Select One (Major Elective) 4  3-4
GE Area UD-D: Upper-Division Social Sciences 3
University Elective 2

Units 14

**Fourth Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVS 680</td>
<td>Environmental Studies Internship</td>
<td>1</td>
</tr>
<tr>
<td>ENVS 690</td>
<td>Senior Seminar in Environmental Studies</td>
<td>3</td>
</tr>
<tr>
<td>GEOG/ENVS 657</td>
<td>Natural Resource Management: Biotic Resources</td>
<td>4</td>
</tr>
<tr>
<td><strong>Resource Policy and Techniques - Select One (Major Elective):</strong></td>
<td></td>
<td>3-4</td>
</tr>
<tr>
<td><strong>Sustainability and Social Justice - Select One (Major Elective):</strong></td>
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<td>3-4</td>
</tr>
<tr>
<td><strong>Units</strong></td>
<td></td>
<td>14</td>
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</tbody>
</table>

Total Units 60
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.