

# BACHELOR OF SCIENCE IN ENVIRONMENTAL STUDIES: CONCENTRATION IN NATURAL RESOURCE MANAGEMENT AND CONSERVATION – BIOL ASSOCIATE DEGREE FOR TRANSFER (ADT) 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.

## 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: 45-53 units

- BIOL 230, BIOL 240, and CHEM 115 met before transfer
- Required (21 units)
- Electives (24-32 units) – one course from each of eight categories

### University Electives: 5 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.

Course	Title	Units
<b>First Semester</b>		
BIOL 530	Conservation Biology (Major Core)	3
ENVS 130	Environmental Studies (Major Core, ES)	3
ENVS 224	Research Methods for Environmental Studies (Major Core)	4

Physical Environment - Select One (Major Elective):		3
ERTH 230	Environmental Geology (B1, B3, ES)	
GEOG 101	Our Physical Environment (Prerequisite for GEOG 657 and many upper-division GEOG courses, B1, ES)	
University Requirement - USH, USG/CSLG, and UD-C <sup>1</sup>		3
<b>Units</b>		<b>16</b>
<b>Second Semester</b>		
ENVS 450GW	Environmental Law and Policy - GWAR (Major Core)	3
GEOG/ENVS 657	Natural Resource Management: Biotic Resources (Major Core)	4
Ecology - Select One (Major Elective) <sup>2</sup>		3-4
GE Area UD-B: Upper-Division Physical and/or Life Sciences		3
University Elective		3
<b>Units</b>		<b>16</b>
<b>Third Semester</b>		
ENVS 680	Environmental Studies Internship (Major Core)	1
Tools/Techniques - Select One (Major Elective):		3-4
GEOG 603	Introduction to Geographic Information Systems	
GEOG/USP 652	Environmental Impact Analysis	
GEOG/USP 658	Land-Use Planning	
Resources - Select One (Major Elective) <sup>3</sup>		3-4
GE Area UD-D: Upper-Division Social Sciences		3
University Elective		2
<b>Units</b>		<b>13</b>
<b>Fourth Semester</b>		
ENVS 690	Senior Seminar in Environmental Studies	3
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)	
ENVS 480	Climate Change Adaptation and Justice	
GEOG/I R 428	International Political Economy of Food and Hunger	
Biodiversity - Select One (Major Elective) <sup>4</sup>		3-5
Resource Policy and Techniques - Select One (Major Elective) <sup>5</sup>		3-4

Sustainability and Social Justice - Select One (Major Elective) <sup>6</sup>	3-4
<b>Units</b>	<b>15</b>
<b>Total Units</b>	<b>60</b>

<sup>1</sup> **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)

<sup>2</sup> **Ecology - Select One:**

- BIOL 482 Ecology (4 units)
- BIOL 529GW Plant Ecology - GVAR (4 units)
- BIOL 532 Restoration Ecology (3 units)
- BIOL 534 Wetland Ecology (4 units)
- BIOL 582 Biological Oceanography & Limnology (4 units)
- BIOL 585 Marine Ecology (3 units)

<sup>3</sup> **Resources - Select One:**

- CHEM 380 Chemistry Behind Environmental Pollution (3 units) (UD-B, ES)
- ENVS 460 Energy, Justice, and Sustainability (3 units)
- ERTH 330 California Water (3 units) (UD-B, ES)
- ERTH 335 Global Warming (3 units) (UD-B, ES, GP)
- 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)
- LS 430 Future of the Forests (3 units) (UD-B, ES, GP)
- RPT 440 Urban Recreation and Parks (3 units) (UD-D, AERM, SJ)
- RPT 640/ENVS 640 Recreational Use of National Parks and Protected Areas (3 units)

<sup>4</sup> **Biodiversity - Select One:**

- BIOL 470 Natural History of Vertebrates (4 units)
  - BIOL 475GW Herpetology - GVAR (3 units)
  - BIOL 478GW Ornithology - GVAR (4 units)
  - BIOL 502 Biology of the Algae (3 units)
  - BIOL 504 Biology of the Fungi (4 units)
  - BIOL 514 Plant Biodiversity and California Field Botany (5 units)
  - BIOL 570GW Biology of Fishes - GVAR (4 units)
- Or a second course chosen from the Ecology section

<sup>5</sup> **Resource Policy and Techniques - Select One:**

- ENVS 470 Climate Politics and Policy (3 units) (ES, GP)
- ENVS 480 Climate Change Adaptation and Justice (3 units)
- ENVS 530 Environmental Leadership and Organizing (3 units)
- ENVS 570 Applied Local Sustainability (3 units) (ES)
- GEOG 652/USP 652 Environmental Impact Analysis (4 units)
- GEOG 658/USP 658 Land-Use Planning (4 units)
- RRS 410/SOC 410 Grassroots Organizing for Change in Communities of Color (3 units) (UD-D, AERM, SJ)

<sup>6</sup> **Sustainability and Social Justice - Select One:**

- ENVS 460 Energy, Justice, and Sustainability (3 units)
- ENVS 480 Climate Change Adaptation and Justice (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)