

# 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)