

BACHELOR OF SCIENCE IN ENVIRONMENTAL STUDIES: CONCENTRATION IN NATURAL RESOURCE MANAGEMENT AND CONSERVATION - QUANTITATIVE REASONING CATEGORY I/II AND STRETCH ENGLISH

120 Total Units Required
Minimum Number of Units in the Major: 65

Course	Title	Units
First Semester		
ENG 104	Writing the First Year: Finding Your Voice Stretch I ¹	3
ENVS 130	Environmental Studies (Major Core, ES)	3
GE Area A ²		3
GE Area B: Quantitative Reasoning (B4) ³		3
GE Area C		3
Units		15
Second Semester		
BIOL 230	Introductory Biology I (Major Core)	5
Select One (Major Core):		3-5
CHEM 115	General Chemistry I: Essential Concepts of Chemistry	
CHEM 180	Chemistry for the Energy and the Environment (B1, B3, ES)	
ENG 105	Writing the First Year: Finding Your Voice Stretch II (A2) ¹	3
GE Area A		3
Units		14-16
Third Semester		
BIOL 240	Introductory Biology II (Major Core)	5
GE Area B: Life Science (B2) and Laboratory Science (B3) ⁴		3-4
GE Area D		3
GE Area E		3
Units		14-15

Fourth Semester		
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)	
GE Area C		3
GE Area D - Take Two		6
Units		16

Fifth Semester		
BIOL 458	Biometry (Major Core)	4
Ecology - Select One (Major Elective) ⁵		3-4
Biodiversity - Select One (Major Elective) ⁶		3-5
GE Area C		3
SF State Studies or University Elective		2
Units		15-18

Sixth Semester		
BIOL 530	Conservation Biology (Major Core)	3
ENVS 450GW	Environmental Law and Policy - GVAR (Major Core)	3
Sustainability and Social Justice - Select One (Major Elective) ⁷		3-4
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	
GE Area UD-C: Upper-Division Arts and/or Humanities (Consider SF State Studies Course)		3
Units		15-17

Seventh Semester		
Select One (Major Core):		3
GEOG 603	Introduction to Geographic Information Systems	
GEOG/USP 652	Environmental Impact Analysis	
GEOG/USP 658	Land-Use Planning	
Resources - Select One (Major Elective) ⁸		3-4
GE Area UD-B: Upper-Division Physical and/or Life Sciences (Consider SF State Studies Course)		3
GE Area UD-D: Upper-Division Social Sciences (Consider SF State Studies Course)		3

SF State Studies or University Elective		3
	Units	15-16
Eighth Semester		
ENVS 680	Environmental Studies Internship (Major Core)	3
ENVS 690	Senior Seminar in Environmental Studies (Major Core)	3
GEOG/ENVS 657	Natural Resource Management: Biotic Resources (Major Core)	4
Resource Policy and Techniques - Select One (Major Elective) ⁹		3-4
SF State Studies or University Elective		3
	Units	16-17
	Total Units	120-130

¹ ENG 114 can only be taken if you complete Directed Self-Placement (DSP) and select ENG 114; if you choose ENG 104/ENG 105 through DSP you will satisfy A2 upon successful completion of ENG 105 in the second semester; multilingual students may be advised into alternative English courses.

² To avoid taking additional units, it is recommended that you meet **SF State Studies** requirements (AERM, GP, ES, SJ) within your GE or major.

³ Depending on courses completed through Early Start, students in Pathway/Category III or IV may be required to enroll in a support course to complement their Quantitative Reasoning/B4 requirement. There are multiple course options for this pathway. Before enrolling in a B4 course, students should verify their MATH Pathway/Category in their Student Center (<http://cms.sfsu.edu/content/student-center>). Information regarding the courses that correspond with your MATH Pathway/Category can be found on the Developmental Studies Office Website (<http://developmentalstudies.sfsu.edu>).

⁴ Consider taking a class combined with a laboratory or a separate lab to fulfill B3 if not already satisfied.

⁵ **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 (4 units)
- BIOL 585 Marine Ecology (3 units)

⁶ **Biodiversity - Select One:**

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

⁷ **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)

⁸ **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)

⁹ **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)