### Bachelor of Science in Environmental Studies: Concentration in Natural Resource Management and Conservation - Quantitative Reasoning Category I/II and ENG 114

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

This roadmap is a suggested plan of study and does not replace meeting with an advisor. Please note that students may need to adjust the actual sequence of courses based on course availability. Please consult an advisor in your major program for further guidance.

#### Course Title | Units
---|---
**First Semester**
ENG 114 | 3  
ENVS 130 | 3  
GE Area A | 3  
GE Area C | 3  
GE Area B: Quantitative Reasoning (B4) | 3
---|---
**Units** | 15

**Second Semester**
BIOL 230 | 5  
Select One (Major Core): 3-5  
CHEM 115 | 3-5  
CHEM 180 | 3
---|---
GE Area A | 3  
GE Area E | 3
---|---
**Units** | 14-16

**Third Semester**
BIOL 240 | 5  
GE Area B: Life Science (B2) and Laboratory Science (B3) | 3-4  
GE Area C | 3  
GE Area D | 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) | 3
---|---
GEOG 101 | Our Physical Environment (Prerequisite for GEOG 657 and many upper-division GEOG courses, B1, ES) | 3
---|---
GE Area C | 3
GE Area D - Take Two | 6
---|---
**Units** | 16

#### Fifth Semester
BIOL 458 | Biometry (Major Core) | 4
---|---
ENVS 680 | Environmental Studies Internship (Major Core) | 1-3
---|---
Ecology - Select One (Major Elective) | 3-4  
Biodiversity - Select One (Major Elective) | 3-5  
SF State Studies or University Elective | 3
---|---
**Units** | 14-19

#### Sixth Semester
BIOL 530 | Conservation Biology (Major Core) | 3
---|---
ENVS 450GW | Environmental Law and Policy - GWAR (Major Core) | 3
---|---
Sustainability and Social Justice - Select One (Major Elective) | 3-4  
Global/International - Select One (Major Elective): | 3-4
---|---
ENVS/I R 331 | Global Environmental Crisis (ES, GP, SJ) | 3
---|---
ENVS 470 | Climate Politics and Policy (ES, GP) | 3
---|---
GEOG/I R 428 | International Political Economy of Food and Hunger | 3
---|---
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 | 3
---|---
GEOG/USP 652 | Environmental Impact Analysis | 3
---|---
GEOG/USP 658 | Land-Use Planning Resources - Select One (Major Elective) | 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

Eighth Semester

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) 3-4
SF State Studies or University Elective - Take Two 7

Total Units 120-132

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 - 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)

6. 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 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)