Environmental Science & Management

Complete one ecology & management course:

- ESM 355: Principles of Ecological Restoration
- ESM 370: Energy Technology & Society
- ESM 420: Ecosystem Analysis
- ESM 430: Natural Resource Management in Protected Areas
- FOR 321: Fire Ecology
- FOR 374: Wilderness Area Management
- FISH 476+: Ecology of Running Waters
- WLDF 460+: Conservation Biology

Complete one natural resource science fundamentals course:

- FOR 130: Dendrology
- GEOG 106: Physical Geography
- SOIL 260: Intro to Soil Science
- BOT 350+: Plant Taxonomy
- WSHD 310: Hydrology & Watershed Management

Complete two upper division policy and management courses, chosen from a list of approved courses provided by your advisor:

- From ENGR, FISH, FOR, GEOG, NAS, PHIL, PSCI, RRS, SOIL, WSHD, WLDF.

Prerequisites may be required for some courses, depending on choice.

NOTE: 24 units may double-count toward GE requirements.

Geospatial Science Concentration (39 units)

Lower Division

- GEG 106: Physical Geography
- GSP 216: Intro to Remote Sensing
- GSP 270: Geographic Information Science (GIS)

Upper Division

- GSP 316: Cartography
- GSP 318: Geospatial Programming I
- GSP 326: Intermediate Remote Sensing
- GSP 330: Mobile Mapping
- GSP 370: Intermediate GIS
- GSP 418: Geospatial Programming II, or
- GSP 436: Advanced Remote Sensing, or
- GSP 470: Advanced Geospatial Analysis & Modeling

Complete one or more courses, depending on choice.

Environmental Education & Interpretation Minor

Total units required for the minor: 19

- ESM 215: Natural Resources & Recreation
- ESM 253: Interpretive Computer Graphics (or equivalent)
- ESM 350/351: Fundamentals of Environmental Education & Interpretation, and Field Trip
- ESM 353: Environmental Education & Interpretation Graphics
- ESM 430: NRM Management in Protected Areas
- ESM 450: Applied Environmental Education & Interpretation

Environmental & Natural Resources Planning Minor

Total units required for the minor: 18

- GEOG 106: Physical Geography
- ESM 105: Natural Resource Conservation
- ESM 210: Public Land Use Policies & Management
- ESM 360: Intro to Environmental Planning Methods

Plus two courses from the following:

- ESM 325: Environmental Law & Regulation
- ESM 365: Local Government Planning
- ESM 425: Environmental Impact Assessment

Environmental Policy Minor

Total units required for the minor: 18-19

- ESM 105: Natural Resources Conservation
- ESM 210: Public Land Use Policies & Management
- ESM 325: Environmental Law & Regulation
- ESM 425: Environmental Impact Assessment
- PSCI 306: Environmental Politics

Complete one course from the following:

- ECON 423: Environmental & Natural Resource Economics
- NAS 332: Environmental Justice
- PSCI 317: Public Policy Process
- PSCI 352: Water Politics
- PSCI 364: Technology & Development
- PSCI 373: Politics of Sustainability
- PSCI 412: Legal Research
- WSHD 430: Water Rights/Water Law

NOTE: 27 units may double-count toward GE requirements.

Requirements for the Minors

Special Grade Requirement

Complete all courses in the minor with a C- or better.

Ecological Restoration Minor

Total units required for the minor: 16

- BOT 105: General Botany
- SOIL 260: Intro to Soil Science
- ESM 355: Principles of Ecological Restoration

Complete either:

- FOR 315: Forest Management and
- FOR 431: Forest Restoration, or
- RRS 306: Rangeland Resource Principles and

Note: 1 Course requires one or more prerequisites that are not required in the major.
**Natural Resources Minor**

Total units required for the minor: 19

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 105</td>
<td>4</td>
<td>Principles of Biology</td>
</tr>
<tr>
<td>ESM 105</td>
<td>3</td>
<td>Natural Resource Conservation</td>
</tr>
<tr>
<td>SOIL 260</td>
<td>3</td>
<td>Introduction to Soil Science</td>
</tr>
</tbody>
</table>

At least three courses from the following (at least 6 units must be 300 or above):

- ESM 210: 3 Public Land Use Policies & Management
- ESM 215: 3 Natural Resources & Recreation
- ESM 365: 3 Local Government Planning
- FISH 300: 3 Introduction to Fishery Biology
- FOR 315: 3 Forest Management
- FOR 374: 3 Wilderness Area Mgmt.
- OCN 301: 3 Marine Ecosystems — Human Impact
- OCN 304: 3 Resources of the Sea
- RRS 306: 3 Wildland Resource Principles
- WLDF 301: 3 Principles of Wildlife Management

**Natural Resources Recreation Minor**

Total units required for the minor: 17-18

- ESM 210: 3 Public Land Use Policies & Management
- ESM 215: 3 Natural Resources & Recreation
- ESM 305: 3 Environmental Conflict Resolution, or
- ESM 309B: 3 Environmental Communication
- FOR 374: 3 Wilderness Area Mgmt.
- ESM 415: 3 Recreation & Park Planning, or
- ESM 440: 2 Managing Recreation Visitors
- ESM 430: 3 NR Management in Protected Areas