

ENVIRONMENTAL SCIENCE COMPREHENSIVE MAJOR: ENVIRONMENTAL SCIENCE EMPHASIS

Program Requirements

The Environmental Science Emphasis requires a minimum of 64 credits:

| Code | Title | Credits |
|---|--|---------|
| Required Introductory Courses | | |
| BIOL 150 | Biological Principles (with laboratory) (GT-SC1) | 4 |
| BIOL 151 | Diversity and Patterns of Life (with laboratory) | 4 |
| ESCI 105 | Earth Systems and Resources (with lab) | 4 |
| Required Core Courses | | |
| BIOL 301 | General Ecology | 3 |
| CHEM 111 & CHEM 112 | General Chemistry I (GT-SC2) and General Chemistry Laboratory I (GT-SC1) | 4 |
| CHEM 113 & CHEM 114 | General Chemistry II and General Chemistry Laboratory II | 4 |
| ESCI 300 | Environmental Science Careers | 1 |
| GEOG 340 | Introduction to Geographic Information Systems | 3 |
| GEOL 362 | Environmental Geochemistry | 3 |
| MATH 151 | Calculus I (GT-MA1) | 4 |
| MATH 213 | Probability and Statistics (GT-MA1) | 3 |
| Either: | | 4 |
| PHYS 140 | Introductory Physics (with laboratory) (GT-SC1) | |
| OR | | |
| PHYS 170 & PHYS 185 | Principles of Physics I (GT-SC2) and Laboratory Physics I (GT-SC1) | |
| OR | | |
| PHYS 190 & PHYS 185 | General Physics I (GT-SC2) and Laboratory Physics I (GT-SC1) | |
| Required Elective Courses: take at least 14 credits, and must be from at least three different disciplines: | | |
| ANTH 218 | Biological Anthropology (with laboratory) | |
| BIOL 302 | Ecology Laboratory and Recitation | |
| BIOL 310 | Cell Biology | |
| BIOL 312 | Genetics (with recitation) | |
| BIOL 320 | Ornithology (with laboratory and recitation) | |
| BIOL 322 | Mammalogy (with laboratory and recitation) | |
| BIOL 325 | Invertebrate Zoology with Laboratory | |
| BIOL 327 | Field Entomology (with laboratory) | |
| BIOL 352 | Botany (with laboratory) | |
| BIOL 353 | Rocky Mountain Flora | |
| BIOL 362 | Evolution | |
| BIOL 430 | Wildlife Ecology and Management (with laboratory) | |
| BIOL 431 | Wildlife Techniques Workshop | |
| BIOL 440 | Conservation Biology | |
| BIOL 467 | Biology of Fishes | |
| BIOL 468 | Ichthyology Laboratory | |

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| BIOL 476 | Aquatic Ecology (with laboratory) | |
| BIOL 481 | Forest Ecology (with laboratory) | |
| CHEM 306 | Analytical Chemistry (with laboratory) | |
| CHEM 331 & CHEM 334 | Organic Chemistry I and Organic Chemistry Laboratory I | |
| CHEM 332 & CHEM 335 | Organic Chemistry II and Organic Chemistry Laboratory II | |
| ENVS 325 | Introduction to Soil Science | |
| ENVS 390 | Environmental Monitoring | |
| GEOG 371 | UAV Imagery Acquisition | |
| GEOG 372 | Satellite Remote Sensing | |
| GEOG 460 | Geospatial Analysis | |
| GEOL 315 | Earth Materials (with laboratory) | |
| GEOL 320 | Geomorphology (with laboratory) | |
| GEOL 380 | Paleoclimatology | |
| GEOL 430 | Hydrogeology (with laboratory) | |
| PHYS 171 & PHYS 186 | Principles of Physics II (GT-SC2) and Laboratory Physics II (GT-SC1) | |
| OR | | |
| PHYS 191 & PHYS 186 | General Physics II (GT-SC2) and Laboratory Physics II (GT-SC1) | |
| Required Environmental Policy and Politics Courses (6 credits) | | 6 |
| ENVS 100 | Introduction to Environment and Sustainability (GT-SS2) | |
| And one of the following: | | |
| ANTH 320 | Cultural Ecology | |
| ENVS 210 | Introduction to Climate Policy | |
| ENVS 250 | Environmental Justice | |
| ENVS 260 | Introduction to Public Lands Management | |
| ENVS 350 | U.S. and Western Environmental Politics | |
| ENVS 360 | Global Environmental Policy | |
| ENVS 370 | Water Policy and Politics | |
| POLS 250 | Politics of the Environment | |
| Required Capstone Course | | |
| ESCI 450 | Applied Environmental Science | 3 |
| Total Credits | | 64 |

Graduation Requirements

Undergraduate programs require a minimum of 120 semester credits for graduation. Of those 120 credits, 40 credits must be in upper-division courses (those marked 300 and above). Fifteen of these 40 upper-division credits must be earned in courses that are part of the standard or comprehensive major program being pursued.

Students are expected to review all graduation requirements, which can be found in the Western Undergraduate Catalog: Graduation Requirements (<https://catalog.western.edu/undergraduate/graduation-requirements/>).

| Course | Title | Credits |
|---------------------|--|---------|
| Year One | | |
| Fall | | |
| CHEM 111 & CHEM 112 | General Chemistry I (GT-SC2) and General Chemistry Laboratory I (GT-SC1) | 4 |
| ENG 102 | Writing and Rhetoric I (GFCO1) | 3 |
| ESCI 105 | Earth Systems and Resources (with lab) | 4 |

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|------------------------|---|------------|
| HWTR 100 | First Year Seminar | 1 |
| MATH 151 | Calculus I (GT-MA1) | 4 |
| Credits | | 16 |
| Spring | | |
| BIOL 150 | Biological Principles (with laboratory) (GT-SC1) | 4 |
| CHEM 113 & CHEM 114 | General Chemistry II and General Chemistry Laboratory II | 4 |
| ENG 103 | Writing and Rhetoric II (GT-CO2) | 3 |
| MATH 213 | Probability and Statistics (GT-MA1) | 3 |
| Credits | | 14 |
| Year Two | | |
| Fall | | |
| BIOL 151 | Diversity and Patterns of Life (with laboratory) | 4 |
| ENVS 100 | Introduction to Environment and Sustainability (GT-SS2) | 3 |
| GEOG 340 | Introduction to Geographic Information Systems | 3 |
| PHYS 140 | Introductory Physics (with laboratory) (GT-SC1) | 4 |
| Credits | | 14 |
| Spring | | |
| BIOL 301 | General Ecology | 3 |
| Elective | ESCI Elective | 3 |
| ESCI 300 | Environmental Science Careers | 1 |
| Gen Ed | Area I | 3 |
| Gen Ed | Area III | 3 |
| GEOL 362 | Environmental Geochemistry | 3 |
| Credits | | 16 |
| Year Three | | |
| Fall | | |
| Elective | ESCI Elective | 8 |
| Gen Ed | Area I | 3 |
| Gen Ed | Area III | 3 |
| Credits | | 14 |
| Spring | | |
| Elective | Elective or minor course | 3 |
| Elective | Elective or minor course (upper division) | 3 |
| Elective | ESCI Elective | 7 |
| Gen Ed | Area III | 3 |
| Credits | | 16 |
| Year Four | | |
| Fall | | |
| Elective | Elective or minor course | 6 |
| Elective | Elective or minor course (upper division) | 4 |
| ENVS | ENVS Policy course | 3 |
| ESCI 450 | Applied Environmental Science | 3 |
| Credits | | 16 |
| Spring | | |
| Elective | Elective or minor course | 10 |
| Elective | Elective or minor course (upper division) | 4 |
| Credits | | 14 |
| Total Credits | | 120 |