

ESRM Earth Systems Emphasis Checklist

Total Units Required for Graduation: 120

General Education Requirements: 42 units, **not included in this guide**

ESRM Major Requirements: 78 units total (includes emphasis specific units)

Earth Systems Emphasis Specific Requirements: 19 units

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Foundations of ESRM (26 units)

Core Environmental Sciences (8 units)

Core Resource Management (6 units)

Essential Skills (15 units)

Field Experiences (choose 4 units)

Earth Systems Emphasis Core (11 units)

Earth Systems Electives (choose 8 units)

Foundations of ESRM (26 units)

- BIOL 200 - Principles of Organismal and Population Biology (4)
- BIOL 201 - Principles of Cell and Molecular Biology (4)
- CHEM 121 - General Chemistry I (4)
- choose one:** ECON 110 - Principles of Microeconomics (3); ECON 111 - Principles of Macroeconomics (3)
- ESRM 100 - Introduction to Environmental Science and Resource Management (3)
- MATH 150 - Calculus 1 (4)
- choose one:** PHYS 100 - Introduction to Physics I (4); PHYS 101 - Introduction to Physics II (4); PHYS 200 - General Physics I (4); PHYS 201 - General Physics II (4); COMP 150 - Object Oriented Programming (4)

Core Environmental Sciences (8 units)

- choose one:** ESRM 210 - Physical Oceanography (4); GEOL 121 - Physical Geology (4)
- ESRM 313 - Conservation Biology (4)

Core Resource Management (6 units)

- choose one:** ESRM 200 - Principles of Resource Management, Conservation, and Stewardship (3); ESRM 205 - Sustainability (3)
- ESRM 329 - Environmental Law and Policy (3)

Essential Skills (15 units)

- ESRM 203 - Introduction to Environmental Statistics (3)
- ESRM 303 - Data Visualization and Climate Communication (3)
- ESRM 328 - The Why of Where: Foundations in GIS (3)
- ESRM 491 - Capstone Preparation (3)
- ESRM 499 - Capstone (3)

Field Experiences (choose 4 units)

- ESRM 301 - Field Professionalism (1)
- ESRM 351 - Field Methods: Monitoring and Assessment (4)
- ESRM 370 - Fundamentals of Remotely Piloted Systems (4)
- ESRM 492 - Service Learning in New Orleans (3)
- UNIV 392 - Costa Rica (3) or Baja California Sur, Mexico (3) preferred

Earth Systems Emphasis Core (11 units)

- ESRM 330 - Geomorphology and Hydrology (4)
- ESRM 367 - Environmental Disasters (3)
- ESRM 464 - Land Use Planning and Open Space Management (4)

Earth Systems Electives (choose 8 units)

Note: units used to fulfill other requirements cannot be counted as electives as well

- ESRM 228 - Maps to Apps: Exploring GIS (3)
- ESRM 301 - Field Professionalism (1)
- ESRM 341 - The National Park (3)
- ESRM 342 - Environmental History (3)
- ESRM 350 - Ecological Restoration Design and Construction (4)
- ESRM 351 - Field Methods: Monitoring and Assessment (4)
- ESRM 352 - Theory and Practice of Ecological Restoration (3)
- ESRM 370 - Fundamentals of Remotely Piloted Systems (4)
- ESRM 371 - Coastal Monitoring with Remotely Piloted Systems (4)
- ESRM 400 - Analytics Studio (1)
- ESRM 410 - Environmental Impact Assessment (3)
- ESRM 428 - Intermediate Geographic Information Systems (4)
- ESRM 433 - Satellites to Sensors: Remote Sensing of the Environment (3)
- ESRM 463 - Water Resource Management (4)
- ESRM 484 - Climate Change and Adaptation Planning
- ESRM 485 - Special Topics in Earth Systems (3)
- ESRM 490 - Special Topics (3)

- ESRM 492 - Service Learning / Internship (3)
- ESRM 494 - Independent Research (1-3)
- ESRM 496 - Environmental Film and Speaker Series (1)

Note: you may choose to use up to 6 units from the following list toward the Earth System Emphasis Electives to count toward your total of 8 required elective units

- ANTH 445 - The Seacoast Through Time (3)
- BIOL 312 - Marine Biology (4)
- BIOL 319 - Plant Systematics and Identification (4)
- BIOL 320 - Deep Sea Biology and Ecology (3)
- BIOL 433 - Ecology and the Environment (4)
- BIOL 450 - Ichthyology: The Biology of Fishes (4)
- BIOL 451 - Ornithology (4)
- BIOL 473 - Sustainable Agriculture (4)
- CHEM 122 - General Chemistry II (4)
- CHEM 301 - Environmental Chemistry: Atmosphere and Climate (3)
- CHEM 302 - Environmental Chemistry: Soil and Water (4)
- COMP 121 - Introduction to Programming in C for STEAM (3)
- COMP 151 - Data Structures and Program Design (4)
- ECON 362 - Environmental Economics (3)
- ECON 480 - Topics in Environmental and Natural Resource Economics (3)
- ENGL 337 - Literature of the Environment (3)
- ENGL 482 - Technical and Business Writing (3)
- ENGL 483 - Technical Communication (3)
- ESRM 250 - Environmental Ethics (3)
- ESRM 300 - Coastal Contaminants and Ecotoxicology (4)
- ESRM 327 - Communicating Science and Policy (3)
- ESRM 332 - Human Ecology (3)
- ESRM 335 - The Beach (3)
- ESRM 340 - Politics and the Environment (3)
- ESRM 365 - Natural History and Resource Management of the California Channel Islands (3)
- ESRM 377 - Shaping the Coast (4)
- ESRM 399 - Conservation Mechatronics Studio (1)
- ESRM 443 - Environmental Communication (3)
- ESRM 450 - Environmental Conflict Resolution (3)
- ESRM 461 - Fish and Fisheries (3)
- ESRM 462 - Coastal and Marine Resource Management (4)
- ESRM 482 - Issues in Environmental Planning and Resource Management (3)
- ESRM 483 - Issues in Global Resource Management (3)
- ESRM 486 - Special Topics in Marine and Coastal Systems (3)

- HIST 366 - Oceans of World History (3)
- MATH 439 - Philosophy of Science (3)
- PHYS 310 - Electronics (4)
- PHYS 315 - Introduction to Biophysics (4)
- PHYS 344 - Energy and Society (3)
- SOC 355 - Environmental Sociology (3)