

Major Offered At:

CORVALLIS

ECAMPUS

Central Oregon Community College

Natural Resources Major with Landscape Analysis Option

Natural Resources students are passionate about the world around them. They collaborate to preserve and protect the natural world for future generations. This option prepares students to work with Geographic Information Science (GIS) technology

in a Natural Resource field such as wildfire ecology, land use planning, ecological restoration, etc. In addition, students will earn an undergraduate certificate in GIScience.

Your Bachelor's Degree (BS) in Natural Resources



- A minimum of 180 credits are required for graduation; 60 must be upper division (300 and 400-level courses).
- A maximum of 124 credits earned at a community college may be applied toward a bachelor's degree at OSU.
- Only courses with letter prefixes and numbers above 100 are accepted.
- [More info forestry.oregonstate.edu/undergraduate-programs/natural-resources/landscape-analysis](http://moreinfo.forestry.oregonstate.edu/undergraduate-programs/natural-resources/landscape-analysis)

Courses Required for Natural Resources Major

| NR Core Requirements | COCC Course | OSU Course | Notes |
|---|----------------------|---|---|
| <i>Complete one course per category</i> | | | |
| Consensus and Natural Resources | | FES 485 | Available online at OSU |
| Managing Nat Res for the Future | FOR 111 | NR 201 | Available online at OSU |
| Natural Resources Decision Making | | NR 455 | Available online at OSU |
| Advanced Communication: Intro to Communication Theory Small Group Problem Solving Communication in Organizations Intercultural Communication Non-Verbal Communication Communication and Culture in Cyberspace Theories of Conflict and Conflict Management Bargaining and Negotiating Processes Forest as Classroom Effective Comm in Fish & Wildlife Sciences Critical thinking for NR Challenges Environmental Interpretation Technical Writing Science Writing Environmental Writing Professional Writing | WR 227 | COMM 321 COMM 322 COMM 324 COMM 326 COMM 328 COMM 385 COMM 440 COMM 442 FES 430 FW 489 NR 312 TRAL 493 WR 327 WR 362 WR 462 WR 466 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU |
| Biology I General Biology I with Lab Introduction to Biology I Principles of Biology I with Lab | BI 101 BI 211 | BI 101 BI 204 BI 211 | Available online at OSU |

| NR Core Requirements (continued) <i>Complete one course per category</i> | COCC Course | OSU Course | Notes |
|--|--|--|---|
| Biology II General Biology II with Lab Introduction to Biology II Principles of Biology II with Lab | BI 102 BI 212 | BI 102 BI 205 BI 212 | Available online at OSU |
| Biology III General Biology III with Lab Introduction to Biology III Principles of Biology III with Lab | BI 103 BI 213 | BI 103 BI 206 BI 213 | Available online at OSU |
| Chemistry General Chemistry I with Lab General Chemistry (Majors) I with Lab | CH 221 | CH 121 CH 231 & 261 | Available online at OSU Available online at OSU |
| Climate Science COCC Course: GEOG 279 Weather & Climate Climate Science Global Change Biology Climatology Intro to Climate Change | GEOG 279 | GEOG LDT ATS 201 FW 345 GEOG 323 SUS 103 | Available online at OSU Available online at OSU Available online at OSU |
| Earth Science The Solid Earth Physical Geology Earth Systems Science Environmental Geology Physical Geography | G 201 G 202 | GEO 101 GEO 201 GEO 202 GEO 221 GEOG 102 | Available online at OSU Available online at OSU Available online at OSU |
| Ecology Marine Ecology General Ecology Plant Ecology Forest Ecology | | BI 351 BI 370 BOT 341 FES 341 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU |
| Mathematics Elementary Functions Calculus for Mgmt, Life, and Social Science Math for Mgmt, Life, and Social Science Differential Calculus | MTH 112 MTH 241 MTH 245 MTH 251 | MTH 112 MTH 241 MTH 245 MTH 251 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU |
| Statistics Principles of Statistics Intro to Statistical Methods | MTH 243 | ST 201 ST 351 | Available online at OSU Available online at OSU |
| Animal ID Forest Entomology Systematics of Birds Systematics of Fishes Systematics of Mammals Biology of Insects Herpetology Aquatic Entomology | FW 212 FW 218 | FES 412 FW 312 FW 316 FW 318 Z 365 Z 473 Z 477 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU |
| Environ. Assessment & Planning Ecological Restoration Ecosystems Services Land Use Planning for Sust. Communities Land Use in the American West Planning Principles for Resilient Communities Sustainable Site Planning Wildland restoration and Ecology Rangeland Management and Planning Sustainability Assessment Sustainable Communities Planning for Sustainable Recreation Planning for Sustainable Tourism Scientific Methods for Analyzing NR Problems | | FES/FW 445 FW 462 GEOG 250 GEOG 450 GEOG 451 GEOG 452 RNG 421 RNG 490 SUS 304 SUS 350 TRAL 456 TRAL 457 NR 325 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU |

| NR Core Requirements (continued) <i>Complete one course per category</i> | COCC Course | OSU Course | Notes |
|---|-----------------|---|---|
| Fish & Marine Sciences Intro to Marine Biology Biology of Marine Mammals Oceans in Peril Marine Ecology Intro to Population Dynamics Mgmt Principles of Pacific Salmon in the NW Coastal Ecology and Resource Management Fishery Biology Marine Fisheries Fish Ecology Wildlife Ecology Oceanography Coastal Oceanography | GS 108 | BI 150 FW 302 BI 347 BI 351 FW 320 FW 323 FW 426 FW 454 FW 465 FW 473 FW 481 OC 201 OC 332 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU |
| Forestry International Forestry Forest Biology Forest Ecology Forest Types of the Northwest Urban Forestry Wildland Fire Ecology Ecological Restoration Biodiveristy Conservation in Managed Forests Agroforestry Topics in Wildland Fire Silviculture Principles | FOR 240A | FE/FOR 456 FES 240 FES 341 FES 342 FES/HORT 350 FES 440 FES/FW 445 FES/FW 452 FES/NR 477 FOR 346 FOR 441 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU |
| Land & Water Watershed Processes Forest Watershed Management Integrated Watershed Management Freshwater Ecology and Conservation Wetlands and Riparian Ecology Minerals, Energy, Water and the Environment National Park Geology and Preservation Global Change and Earth Sciences Introduction to Water Science & Policy Water Resources Management in the U.S. International Water Resource Management Desert Water Shed Management Riparian Ecohydrology and Management Ecosystems of Wildland Soils Soil Systems and Plant Growth World Soil Resources Soil Morphology and Classification | | FE 430 FE 434 FW 326 FW 456 FW 479 GEO 306 GEO 307 GEO 308 GEOG 340 GEOG 440 GEOG 441 RND 355 RNG 455 SOIL 366 SOIL 388 SOIL 395 SOIL 466 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU |
| Range Wildland Fire Ecology Ecological Restoration Topics in Wildland Fire Rangeland Ecology and Management Range Ecology I – Grasslands Range Ecology II – Shrub Lands Wildland Restoration and Ecology Rangeland Analysis Rangeland-Animal Relations Rangeland Management and Planning | | FES 440 FES/FW 445 FOR 346 RNG 341 RNG 351 RNG 352 RNG 421 RNG 441 RNG 442 RNG 490 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU |
| Vegetation ID Plant Systematics Agrostology Flora of the Pacific Northwest Dendrology Landscape Plant Materials I: Decid & Conifers Landscape Plant Materials II: Shrubs Wildland Plant Identification | FOR 241A & 241B | BOT 321 BOT 414 BOT 425 FES 241 HORT 226 HORT 228 RNG 353 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU |

| NR Core Requirements (continued) <i>Complete one course per category</i> | COCC Course | OSU Course | Notes |
|---|--------------------|--|--|
| Wildlife Management COCC Course: Animal Behavior Principles of Fish & Wildlife Conservation Introductory Population Dynamics Applied Community and Ecosystem Ecology Wildlife in Agricultural Ecosystems Avian Conservation and Management Biodiversity Conservation in Managed Forests Mammal Conservation and Management Wildlife Ecology Animal Behavior | PSY LDT FW 251 | FW 251 FW 320 FW 321 FW 435 FW 451 FES/FW 452 FW 458 FW 481 Z 350 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU |
| Ethics & Philosophy Ecosystems Science of the PNW Indians Anthropology, Health, and the Environment Ecological Anthropology Natural Resources and Community Values Anthropology of International Development Multicultural Perspectives in NR Environmental Justice Environmental History of the United States Critical Thinking for NR Challenges Environmental Ethics World View and Environmental Values | | AG 301 ANTH 352 ANTH 477 ANTH 481 ANTH 482 FW 340 GEO 309 HST 481 NR 412 PHL 440 PHL/REL 443 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU |
| Natural Resource Policy Environmental Law Rural Development Economics & Policy Public Lands Policy & Management Forest Policy Natural Resources Policy and Law Fish & Wildlife Law and Policy Introduction to Ocean Law U.S. Energy Policy Environmental Politics and Policy International Environmental Politics & Policy | | AEC 432 AEC 454 FES 486 FOR 460 FOR 462 FW 415 FW 422 PS 473 PS 475 PS 477 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU |
| Political Issues Plagues, Pests, and Politics Natural Resource Policy and Law Endangered Spec, Society and Sustainability When Science Escapes the Lab The Politics of Climate Change Environmental Politics and Policy Science and Politics International Environmental Politics & Policy Wilderness Management | | ENT/HORT 300 FOR 462 FW 350 NR 351 PS 455 PS 475 PS 476 PS 477 TRAL 352 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU |
| Resource Economics Natural Resource Economics and Policy Environmental Economics and Policy Rural Development Economics and Policy Forest Resource Economics I | | AEC 351 AEC/ECON 352 AEC 454 FOR 329 | Available online at OSU Available online at OSU Available online at OSU |

| NR Core Requirements (continued) <i>Complete one course per category</i> | COCC Course | OSU Course | Notes |
|---|--------------------|---|---|
| Social Issues Management for Multiple Resource Values Issues in Natural Resource Conservation Global Crises in Resource Ecology Sustainability for the Common Good Climate Change, Water and Society Resilience-Based Natural Resource Mgmt Global Resource Development When Science Escapes the Lab Social Dimensions of Sustainability Rural Sociology Environmental Sociology Society and Natural Resources Social Dimensions of Sustainability Recreation Resource Management Outdoor Recreation on Public Lands Wilderness Management Nature, Eco, and Adventure Tourism Communities, Natural Areas, and Tourism Women and Natural Resources | FOR 251 | FES 355 FES 365 FW 325 GEOG 300 GEOG 240 GEOG 430 GEOG 431 NR 351 SOC 381 SOC 475 SOC 480 SOC 481 SUS 420 TRAL 251 TRAL 351 TRAL 352 TRAL 353 TRAL 354 WGSS 440 | Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU Available online at OSU |
| Spatial Analysis Precision Agriculture GIS and Forest Engineering Applications Survey of Geographic Information Systems | | CROP/HORT 414 FE 257 FW 303 | Available online at OSU Available online at OSU Available online at OSU |

Courses Required for Landscape Analysis Option

| Requirement <i>Complete one course per category unless otherwise noted</i> | COCC Course | OSU Course | Notes |
|--|---------------------|-------------------|-------------------------|
| Measurements | | | |
| Forest Surveying | FOR 230B | FE 208 | Available online at OSU |
| Foundations of Geospatial Science & GIS | GEOG 265 | GEOG 201 | Available online at OSU |
| Geoscience I: GIS Systems & Theory | GEOG 266 | GEOG 360 | Available online at OSU |
| Geo-visualization: Cartography | | GEOG 370 | Available online at OSU |
| Remote Sensing I: Principles & Applications | | GEOG 480 | Available online at OSU |
| GIS Electives – choose two courses | | | |
| GIS in Water Resources | | CE 413 | |
| Precision Agriculture | | CROP/HORT 414 | Available online at OSU |
| Digital Image Processing | | ECE 468 | |
| Internship | | NR 410 | Available online at OSU |
| Forest Photogrammetry & Remote Sensing | FOR 236 or GEOG 286 | FE 209 | |
| Forest Route Surveying | | FE 310 | |
| Unmanned Aircraft Systems Remote Sensing | | FE 423 | |
| Forestry Remote Sensing & Photogrammetry | | FE 444 | |
| Survey of Geographic Information Systems | | FW 303 | Available online at OSU |
| GIScience II: Analysis & Applications | | GEOG 361 | Available online at OSU |
| Geovisualization: Web Mapping | | GEOG 371 | |
| Plan Prin and Pract for Resilient Communities | | GEOG 451 | |
| GIScience III: Programming for Geo. Analysis | | GEOG 462 | Available online at OSU |
| GIScience IV: Spatial Modeling | | GEOG 463 | |
| Geospatial Perspectives | | GEOG 464 | Available online at OSU |
| Geo-visualization: Geo-visual Analytics | | GEOG 472 | |
| Remote Sensing II: Digital Image Processing | | GEOG 481 | |
| Soil Landscape Analysis | | SOIL 468 | |

General Education Courses (called the Baccalaureate Core)

- Complete one course in each Perspective category with no more than two in the same department.
- Full listing of COCC courses that fulfill Bacc Core requirements: admissions.oregonstate.edu/baccalaureate-core-course-equivalencies-central-oregon-community-college

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|----------------------------|--|---|
| SKILLS COURSES | Math Writing I Writing II Speech (Writing III) Fitness | Completed as part of major: MTH 112 or higher WR 121. Required to transfer. Can be completed as part of major: see advisor Choose one course from Bacc Core link above HHP 295 @ COCC |
| PERSPECTIVE COURSES | Biological Science Physical Science Additional Biological or Physical Science Cultural Diversity Literature and the Arts Social Processes and Institutions Western Culture | Completed as part of major: Biology I Completed as part of major: Chemistry Completed as part of major: Biology II Choose one course from Bacc Core link above Choose one course from Bacc Core link above Completed as part of major: EC 201 Choose one course from Bacc Core link above |
| DPD COURSE | Difference, Power, & Discrimination | Can be completed as part of major: see advisor |
| SYNTHESIS COURSES | Contemporary Global Issues Science, Technology, & Society | Upper division course, take through OSU Upper division course, take through OSU |

Advising Contacts

Academic advisors at your community college and OSU are available to answer your questions and assist you in creating a transfer plan. **See your community college advisor first and use this Transfer Guide to help you plan.** It is important to speak with your OSU academic advisor early on, and often, to ensure correct course selection and sequencing. See visitosu.oregonstate.edu/visit-campus to schedule your personalized visit.

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| Central Oregon Community College | Rebecca Franklin, Forestry Faculty 541-330-4378 rfranklin@cocc.edu |
| OSU College of Forestry Prospective Student Advisor | Autumn Granger 541-737-9135 Autumn.granger@oregonstate.edu |