A total of 12 credits are required from this list.

Of those, please select at least 3 credits from the ESS Prefix Electives and 3 credits from the Technical Electives.

ESS Prefix Electives

Courses	Title	Credits	Prerequisites	Semester(s) Offered
Ecosystem Science and Sustainability				
ESS 353	Global Change Ecology, Impacts, and Mitigation	3	LIFE 320 or LIFE/LAND 220	S
ESS 365	Global Climate Justice	3	NONE	F
ESS 400	Global Perspectives on Sustainability	3	ESS 311	S
ESS 401	Sustainability of Parks and Protected Places	3	NONE	F
ESS/SOCR 405	Global Agriculture and Environmental Change	3	BSPM 302 or BSPM 308 or BSPM 361 or LAND/LIFE 220 or LIFE 320	S
ESS 411	Earth Systems Ecology	3	ESS 311; ESS 312	F
ESS/MIP 432/433	Microbial Ecology/Lab	3/1	MIP 300; MIP 433 must be taken concurrently w/MIP 432	F (odd years)
ESS 474	Limnology	3	LAND 220 or LIFE 220 or LIFE 320.	F (even years)
ESS 486	Ecosystem Practicum	2	ESS 311	F
ESS 501	Principles of Ecosystem Sustainability	3	Upper-level course in ESS; BZ 300 to 499 or ECOL 300 to 499 or CHEM 300 to 499	F
ESS 505	International Climate Negotiations	2	Must be taken concurrently with ESS 506 or ESS 582A-D	F
ESS 506	Virtual International Climate Negotiations	1	Must be taken concurrently with ESS 505	F
ESS/SOCR 523A	Environmental Data Science Applications: Intro	3	STAR 511 or STAT 158	S
ESS/SOCR 523B	Envir. Data Sci. App: Food and Agriculture	2	ESS/SOCR 523A or concurrent registration.	S
ESS/WR 523C	Envir. Data Sci. App: Water Resources	2	ESS/SOCR 523A or concurrent registration.	S
ESS 524	Foundations for Carbon/Greenhouse Gas Mgmt.	3	BZ 300 to 499 or ECOL 300 to 499 or CHEM 300 to 499	F
ESS 542	Greenhouse Gas Policies	2	ESS 524 or concurrent registration	S
ATS/ESS 543	Global Climate Change	2	BZ 300 to 499 or ECOL 300 to 499 or LIFE 300 to 499 or CHEM 300 to 499	S
ESS/ANTH 554	Ecological and Social Agent-based Modeling	3	Junior or senior standing	S (odd years)
ESS 555	Lifecycle Assessment for Sustainability	3	Upper-level course in ESS.	S
ESS 582A-D	Study Abroad - UN Climate Change Conference	1	Must be taken concurrently with ESS 505	F

Technical Electives

NR 323	Remote Sensing & Image Interpretation	3	NONE	F, S
NR 450	Geospatial Project Design & Analysis	4	GR 420 or NR 319 or NR 322	F
WR 416	Land Use Hydrology	3	(ESS 210 or GEOL 110 and GEOL 120 or GEOL 122 or GEOL 124 or GEOL 150 or SOCR 240) and (CIVE 202 or STAT 201 or STAT 301 or STAT 307 or STAT 315) and (PH 110 or PH 121 or PH 141)	F
WR 417	Watershed Measurements	3	WR 416 and WR 418; may be taken concurrently	F
WR 418	Land Use and Water Quality	3	(CHEM 103 and CHEM 104 or CHEM 107 and CHEM 108 or CHEM 111 and CHEM 112) and (STAT 158) and (STAT 301 or STAT 315).	S
WR 419	Water Quality Analyses	3	(CHEM 107 or CHEM 111) and (STAT 301 or STAT 315) and (WR 417); Concurrent registration in WR 418	S
WR 474	Snow Hydrology	3	WR 416, or concurrent registration	F

All Other Elective Options - Choose 6 Credits

Courses	Title	Credits	Prerequisites	Semester(s) Offered
Agricultural Biology				
AB 451	Integrated Pest Management	3	BSPM 302 or BSPM 308 or BSPM 361	S
Anthropology				
ANTH 329	Cultural Change	3	ANTH 100 or ANTH 200	F (odd years)
ANTH 330	Human Ecology	3	(ANTH 100 or ANTH 200) and (ANTH 120 or BZ 101 or LAND 220 or LIFE 220)	F (even years)
ANTH 414	Development in Indian Country	3	ANTH 100 or ANTH 200 or ETST 100	F (odd years)
ANTH 415	Indigenous Ecologies and the Modern World	3	NONE	F, S, SS
ANTH 417	Indigenous Environmental Stewardship	3	ANTH 100 or ANTH 200	S
ANTH 453	Impacts on Ancient Environments	3	ANTH 140	F
ANTH 478	Heritage Resource Management	3	Junior or senior standing	S (even years)
Agriculture and Resource Economics				
AREC 340	Introduction to Economics of Natural Resources	3	AREC 202 or ECON 202	S
AREC 341	Environmental Economics	3	AREC 202 or ECON 202	F
AREC 440	Advanced Environmental and Resource Economics	3	(AREC 340 or ECON 340) and (AREC 341 and ECON 306)	S
AREC 444	Economics of Energy Resources	3	ECON 306; junior standing	S
Atmospheric Science				
ATS 350/351	Introduction to Weather and Climate/Lab	2/1	NONE	F
ATS 556	Climate Intervention to Cool a Warming Planet	2	NONE. Junior Standing.	S
Bio-agricultural Science and Pest Management				
BSPM 302	Applied and General Entomology	2	NONE	F
BSPM 308	Ecology and Management of Weeds	3	(BZ 120 or LIFE 103) and (CHEM 107 or CHEM 111)	F
BSPM 361	Elements of Plant Pathology	3	BZ 104 or BZ 120 or HORT 100 or LIFE 102	S
BSPM 365	Integrated Tree Management	4	BZ 120 or LIFE 102	F
Botany and Zoology				
BZ 440/441	Plant Physiology/Lab	3/2	BZ 120 or LIFE 103	S
BZ 450	Plant Ecology	4	BZ 120 or LIFE 103	S
BZ 471/472	Stream Biology and Ecology/Lab	4	LIFE 320 or LAND 220 or LIFE 220	F (odd years)
Chemistry				
CHEM 338	Environmental Chemistry	3	CHEM 107 or CHEM 113 or CHEM 120 or CHEM 231 or CHEM 263; CHEM 245 or CHEM 341 or CHEM 345	S
Construction Management				
CON 450	Travel Abroad - Sustainable Building	3	NONE	SS
CON 476	Sustainable Practice - Design and Construction	3	NONE	F

Courses	Title	Credits	Prerequisites	Semester(s) Offered
CON 521	Sustainable Building and Infrastructure Systems	3	NONE	S
Economics				
ECON 304	Intermediate Macroeconomics	3	ECON 204; MATH 141 or 155 or 160	F, S, SS
ECON 306	Intermediate Microeconomics	3	AREC 202 or ECON 202; MATH 141 or 155 or 160	F, S, SS
ECON 317	Population Economics	3	AREC 202 or ECON 202	F, S, SS
ECON 340	Introduction to Economics of Natural Resources	3	AREC 202 or ECON 202	S
ECON 444	Economics of Energy Resources	3	ECON 306; junior standing	S
Environmental & Radiological Health Science				
ERHS 448	Environmental Contaminants	3	CHEM 241 or CHEM 245 or CHEM 341 or CHEM 345	F
Ethnic Studies				
ETST 352	Indigenous Women, Children, and Tribes	3	ETST 100 to 299 at least 3 credits or WS 200	F
ETST 365	Global Environmental Justice Movements	3	ETST 100 to 299 at least 3 credits	F, S
ETST 414	Development in Indian Country	3	ANTH 100 or ANTH 200 or ETST 100	F (odd years)
ETST 444	Federal Indian Law and Policy	3	NONE	S (odd years)
Forest and Rangeland Stewardship				
F 310	Forest and Rangeland Ecogeography	3	BZ 101 or BZ 104 or BZ 110 or BZ 120 or LIFE 102; concurrent registration in F 312	F, S
F 311	Forest Ecology	3	LIFE 320 or LAND 220 or LIFE 220 or F209	F, S
F 312	Dendrology	2	BZ 120	F, S
F 322	Economics of the Forest Environment	3	AREC 202 or ECON 202 or ECON 240 or AREC 240	F, S
F 324	Fire Effects and Adaptations	3	LIFE 320 or LAND 220 or LIFE 220 or F 209	S
F 466	Urban and Community Forestry	3	F 310 or RS 310 or HORT 221	F (odd years)
Fish, Wildlife and Conservation Biology				
FW 204	Introduction to Fishery Biology	3	NONE	F
FW 260	Principles of Wildlife Management	3	(MATH 120 or MATH 124 or MATH 127) and (BZ 110 or LIFE 103)	F, S
FW 300	Biology & Diversity of Fishes	2	BZ 111 or LIFE 103	S
FW 301	Ichthyology Lab	1	FW 300, may be taken concurrently	S
FW 375	Field Wildlife Studies	3	(LIFE 320 or LAND 220 or LIFE 220) and FW 260	S, SS
FW 400	Conservation of Fish in Aquatic Ecosystems	3	LIFE 320 and FW 300	F
FW 477	Habitat for Wildlife	3	FW 260 and NR 319	F (even years)
Global Environmental Sustainability				
GES 440	Sea Level Rise and a Sustainable Future	3	NONE	S
GES 441	Analysis of Sustainable Energy Solutions	3	GES 141	S
GES 450	Global Sustainability and Health	3	GES 101	F, S
GES 460	Law and Sustainability	3	GES 101	F
GES 465	Sustainable Strategies for E-Waste Management	3	Junior standing	F
GES 470	Applications of Environmental Sustainability	3	GES 101; 12 credits of GES minor coursework completed	F, S

Courses	Title	Credits	Prerequisites	Semester(s) Offered
Geography				
GR 303	Mountain Geography	3	3 credits of GR coursework; junior standing	F, S
GR 348	Biogeography	3	3 credits of GR coursework	F, S
GR 410	Climate Change: Science, Policy, and Implications	3	3 credits of GR coursework	S
Horticulture				
HORT 331	Landscape Design	2	NONE	S
HORT/LAND 368	Landscape Irrigation and Water Conservation	3	HORT 100 or LAND 110	F, S
HORT 511	Green Roof Culture	3	3 credits of HORT coursework	F
Journalism and Technical Communication				
JTC 419	Food and Natural Resources Communication	3	Junior or senior standing	S
Natural Resources				
NR 300	Biological Diversity	3	NR 120A or NR 120B or one BZ course or one LIFE course	S
NR 320	Natural Resources History and Policy	3	Junior standing	F, S, SS
NR 321	Natural Resource Rights and Reconciliation	3	Sophomore standing	S
NR 330	Human Dimensions in Natural Resources	3	NR 120A or NR 120B	F
NR 370	Coastal Environmental Ecology	3	CHEM 107 or CHEM 113	F, S
NR 421	Natural Resources Sampling	3	(STAT 201 or STAT 301) and NR 220	S
NR 422	GIS Applications for Natural Resource Management	4	NR 319	S
NR 425	Natural Resource Policy and Sustainability	3	NR 320	S
Natural Resource Recreation and Tourism				
NRRT 231	Principles of Parks and Protected Area Management	3	NONE	F
NRRT 262	Principles of Environmental Communication	3	NONE	F
NRRT 270	Principles of Natural Resource Tourism	3	NONE	F, S
NRRT 320	International Issues of Recreation and Tourism	3	NONE	F, S
NRRT 330	Social Aspects of Natural Resource Management	3	NONE (Sophomore standing)	F, S
NRRT 340	Principles in Conservation Planning/Management	3	NRRT 231	F
NRRT 362	Environmental Conflict Management	3	NRRT 262	F
NRRT 402	Political and Cultural Ecology	3	NRRT 231	S
NRRT 475	Leadership for Conservation Action	3	NRRT 340	S
Philosophy				
PHIL 320	Ethics of Sustainability	3	NONE	F, S
PHIL 330	Agricultural and Food System Ethics	3	CO 150	S
PHIL 345	Environmental Ethics	3	Sophomore standing	F, S
Political Science				
POLS 361	US Environmental Politics	3	POLS 101	F, S, SS
POLS 362	Global Environmental Politics	3	POLS 232	F, S, SS

Courses	Title	Credits	Prerequisites	Semester(s) Offered
POLS 364	Air, Climate, and Energy Policy Analysis	3	POLS 101; sophomore standing	F (even years)
POLS 442	Environmental Politics in Developing World	3	POLS 241	F, S, SS
POLS 462	Globalization, Sustainability, and Justice	3	POLS 232 or POLS 241	F, S, SS
POLS 463	Urban Policy and Management	3	POLS 101 or POLS 103	F, S, SS
Rangeland Ecosystem Science				
RS 300	Rangeland Conservation and Stewardship	3	BZ 120 or LIFE 102	F
RS 310	Rangeland and Forest Ecogeography	3	BZ 101 or BZ 104 or BZ 110 or BZ 120 or LIFE 102; concurrent registration in RS 312	F, S
RS 312	Rangeland Plant Identification Lab	1	Concurrent registration in RS 310	F
RS 331	Wildland Plants and Plant Communities	3	BZ 223 or NR 220	F
RS 432	Rangeland Measurements and Monitoring	2	NR 220 and (RS 300 or concurrent registration) and (STAT 201 or STAT 301 or STAT 307)	F
RS 452	Rangeland Herbivore Ecology and Management	3	RS 300 and (LAND 220 or LIFE 220 or LIFE 320 or F 209)	F, S
RS 470	Rangeland Economics and Analysis	2	(AREC 202 or ECON 202) and RS 300	F
RS 471	Rangeland Planning and Grazing Management	2	RS 300 or SOCR 320	F
RS 478	Restoration Ecology	3	(BZ 450 or LAND 220 or LIFE 220 or LIFE 320 or F 209) and SOCR 240	S
Sociology				
SOC 320	Population, Natural Resources, and the Environment	3	SOC 100 or SOC 105	F
SOC 322	Introduction to Environmental Justice	3	SOC 100 or SOC 105	F, S
SOC 323	Sociology of Enviro. Cooperation & Conflict	3	SOC 100 or SOC 105	S
SOC 324	Food Justice	3	SOC 100 or SOC 105	F
SOC 362	Social Change	3	SOC 100 or SOC 105	S
SOC 364	Agriculture and Global Society	3	SOC 100 or SOC 105	S
SOC 444	Federal Indian Law and Policy	3	NONE	S
SOC 460	Enviro. & Natural Resource Sociology	3	SOC 100 or SOC 105	S
SOC 461	Water & Social Justice	3	SOC 100 or SOC 105	F, S
Soil and Crop Sciences				
SOCR 322	Principles of Microclimatology	3	Three credits in PH	S
SOCR 375	Soil Biogeochemistry	3	SOCR 240	S
SOCR 400	Soil and Global Change	3	SOCR 240 and (LIFE 220 or LIFE 320)	F
SOCR 421	Agroecosytem Management	4	(HORT 100 or SOCR 100) and SOCR 240	F
SOCR 441	Soil Ecology	3	SOCR 240	S (odd years)
SOCR 442	Forest and Range Soils	3	NONE	S
SOCR 455/456	Soil Microbiology/Lab	4	MIP 300 OR SOCR 240	F
SOCR 500	Environmental Measurement Lab	1	PH 110	S
Watershed Science				
WR 511	Water Resource Development	3	NONE	S
WR 512	Water Law for Non-Lawyers	3	NONE	F
WR 514	GIS and Data Analysis in Water Resources	3	NONE	S