

A total of 9 credits are required from this list. Of those, please select at least 3 credits from the box below.

Courses	Title	Credits	Prerequisites	Semester(s) Offered
Ecosystem Science and Sustainability				
ESS 353	Global Change Ecology, Impacts, and Mitigation	3	LIFE 320 or LIFE 220 or LAND 220	S
ESS 400	Global Perspectives on Sustainability	3	ESS 311; ESS 312	S
ESS 401	Sustainability of Parks and Protected Places	3	NONE	F
ESS 411	Earth Systems Ecology	3	ESS 311; ESS 312	F
ESS 412	Sustainable Cities	3	GR 100 or GR 210 or LIFE 220 or LIFE 320 or NR 120 or NR 130 or GES 101 or ANTH 100 or ANTH 200 or SOC 220	S
ESS/MIP 432/433	Microbial Ecology/Lab	3/1	MIP 300; MIP 433 must be taken concurrently w/MIP 432	F (odd years)
ESS/BZ 474	Limnology	3	LAND 220 or LIFE 220 or LIFE 320.	S (odd years)
ESS 486	Ecosystem Practicum	2	ESS 311	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 524	Foundations for Carbon/Greenhouse Gas Mgmt.	3	Upper-level course in ESS	F
ESS 542	Greenhouse Gas Policies	2	Upper-level course in ESS	S
ESS 543	Current Topics in Climate Change	2	Upper-level course in ESS	F
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, SS
ESS 582A-D	Study Abroad - UN Climate Change Conference	1	Must be taken concurrently with ESS 505	F
Anthropology				
ANTH 329	Cultural Change	3	ANTH 100 or ANTH 200 (ANTH 100 or ANTH 200) and (ANTH 120 or BZ 101 or LAND 220 or LIFE 220)	F (odd years)
ANTH 330	Human Ecology	3	220)	F (even years)
ANTH 414	Development in Indian Country	3	NONE	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
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; AREC 240 or ECON 240	F
AREC 440	Advanced Environmental and Resource Economics	3	AREC 340 or ECON 340; AREC 341; ECON 306	S
AREC 444	Economics of Energy Resources	3	ECON 306	S (odd years)
Atmospheric Science				
ATS 350/351	Introduction to Weather and Climate/Lab	2/1	NONE	F
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
BSPM 451	Integrated Pest Management	3	BSPM 302 or BSPM 308 or BSPM 361	S (odd years)

Courses	Title	Credits	Prerequisites	Semester(s) Offered
Botany and Zoology				
BZ 440/441	Plant Physiology/Lab	4/1	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 113; CHEM 245 or CHEM 341 or CHEM 345	S (odd years)
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	S (odd years)
Environmental & Radiological Health Science				
ERHS 448	Environmental Contaminants: Exposure and Fate	3	LIFE 102; CHEM 245 or CHEM 341 or CHEM 345	F
Ethnic Studies				
ETST 352	Indigenous Women, Children, and Tribes	3	NONE	F
ETST 365	Global Environmental Justice Movements	3	NONE	F, S
ETST 414	Development in Indian Country	3	NONE	F (odd years)
ETST 444	Federal Indian Law and Policy	3	NONE	S (odd years)
Forest and Rangeland Stewardship				
F 311	Forest Ecology	3	LIFE 320 or LAND 220 or LIFE 220	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	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 124 or MATH 160) and (BZ 110 or LIFE 103)	F, S
FW 300	Diversity of Fishes	2	BZ 111 or LIFE 103	S
FW 301	Ichthyology Lab	1	FW 300, may be taken concurrently	F, 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 or NR 322)	F (even years)
Geology				
GEOL/CIVE 424	Modern Gas and Oil	3	NONE	S

CSU Ecosystem Science Sustainability - Suggested ESS Course Selections / Major Elective Options

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Courses	Title	Credits	Prerequisites	Semester(s) Offered
Global Environmental Sustainability				
GES 470	Applications of Environmental Sustainability	3	GES 101	F, S
Geography				
GR 303	Mountain Geography	3	3 credits of GR coursework	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
GR 430/431	Land Change Science and Remote Sensing/Lab	3/1	GR 430: GR 100/GR 431: GR/NR 323 or GR/NR 503 ESS 311 or F 311 or GR 100 or GR/ESS 210 or GR 303 or GR 348 or GR	S (even years)
GR 448	Forest Biogeography and Climate Change	3	410	S (odd years)
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	NONE	F, S
NR 326	Forest Vegetation Management	3	NR 220	F
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 322 or NR 319	S
NR 425	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 (Junior standing)	F, S (sometimes SS)
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	NONE	F, S
Political Science				
POLS 361	US Environmental Politics	3	POLS 101	F, S
POLS 362	Global Environmental Politics	3	POLS 232	F, S, SS
POLS 364	US Energy Policy Analysis	3	POLS 101	F, S, SS
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

Courses	Title	Credits	Prerequisites	Semester(s) Offered
Rangeland Ecosystem Science				
RS 300	Rangeland Conservation and Stewardship	3	BZ 120 or LIFE 102	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)	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) and SOCR 240	S
Sociology				
SOC 320	Population, Natural Resources, and the Environment	3	SOC 100 or SOC 105	F
SOC 321	Soil, Environment, and Society	3	SOC 100 or SOC 105	F, S
SOC 322	Introduction to Environmental Justice	3	SOC 100 or SOC 105	F, S
SOC 323	Sociology of Environmental Governance	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	Society and Environment	3	SOC 100 or SOC 105	S
SOC 461	Water, Society, and Environment	3	SOC 100 or SOC 105	F, S
Soil and Crop Sciences				
SOCR 322	Principles of Microclimatology	3	Three credits in PH	S
SOCR 400	Soil and Global Change	3	SOCR 240 and (LIFE 220 or LIFE 320)	F
SOCR 420	Crop and Soil Management Systems I/II	3	(HORT 100 or SOCR 100) and SOCR 240	S
SOCR 441	Soil Ecology	3	SOCR 455	S
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				
			(GEOL 120 or GEOL 122 or GEOL 124 or GEOL 150 or SOCR 240) / (CIVE 202 or STAT 201 or STAT 301 or STAT 307 or STAT 315) / (PH 110 or PH 121 or PH 141)	
WR 416	Land Use Hydrology	3		F
WR 417	Watershed Measurements	3	Concurrent registration in WR 416	F
WR 418	Land Use and Water Quality	3	NONE	S
WR 419	Water Quality Lab	2	Concurrent registration in WR 418	S
WR 474	Snow Hydrology	3	NONE	F