

# RESOURCE CONSERVATION B.S.

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The challenging and rapidly evolving field of environmental conservation requires broad training and the ability to integrate and communicate across disciplines. Resource Conservation is an interdepartmental undergraduate major that prepares students for the diverse opportunities that now exist in environmental conservation, natural resource management, and sustainable livelihoods and communities. Students can choose a more structured area of study in the natural sciences, such as ecology or hydrology, or emphasize emerging sub-disciplines such as wildland fire management, natural resource economics, or climate and environmental change. Students can also integrate across disciplines and focus on environmental policy and natural resources planning, wilderness studies, sustainable livelihoods and community conservation, or international conservation. Please go to the Resource Conservation website (<http://www.cfc.umt.edu/rc>) for more information on different curricular tracks within the Resource Conservation major. In addition to degree requirements listed below, students selecting the Bachelor of Science in Resource Conservation should contact their faculty advisor to approve their curriculum.

## Bachelor of Science - Resource Conservation

### W.A Franke College of Forestry & Conservation

Degree Specific Credits: 88-92

Required Cumulative GPA: 2.0

Catalog Year: 2018-2019

## General Education Requirements

Information regarding these requirements can be found in the General Education Section (<http://catalog.umt.edu/academics/general-education-requirements>) of the catalog.

## Summary

Code	Title	Hours
	Chemistry	3
	Quantitative and Spatial Analysis	9-12
	Biology	3-4
	Communication	3
	Physical Science	3
	Ecology	3
	Policy	3
	Social Science	3
	Ethics	3
	Additional Required Courses	46
	Upper-Division Writing Requirement	9
	<b>Total Hours</b>	<b>88-92</b>

## Chemistry

Code	Title	Hours
<b>Complete the following course:</b>		
CHMY 121N	Introduction to General Chemistry	3
<b>Total Hours</b>		<b>3</b>

Minimum Required Grade: C-

## Quantitative and Spatial Analysis

Code	Title	Hours
<b>Complete one of the following courses:</b>		
FORS 201	Forest Biometrics	3-4
STAT 216	Introduction to Statistics	
SOCI 202	Social Statistics	
<b>Complete two of the following courses:</b>		
FORS 250	Intro to GIS for Forest Mgt (highly recommended)	6-8
M 115	Probability and Linear Mathematics	
M 121	College Algebra	
M 122	College Trigonometry	
M 151	Precalculus	
M 162	Applied Calculus	
<b>Total Hours</b>		<b>9-12</b>

Minimum Required Grade: C-

## Biology

Code	Title	Hours
<b>Complete one of the following courses:</b>		
BIOB 160N	Principles of Living Systems	3-4
BIOB 170N	Princpls Biological Diversity	
BIOE 172N	Introductory Ecology	
BIOO 105N	Introduction to Botany	
<b>Total Hours</b>		<b>3-4</b>

Minimum Required Grade: C-

## Communication

Code	Title	Hours
<b>Complete one of the following courses:</b>		
COMX 111A	Introduction to Public Speaking	3
or THTR 120A	Introduction to Acting I	
<b>Total Hours</b>		<b>3</b>

Minimum Required Grade: C-

## Physical Science

Code	Title	Hours
<b>Complete the following course:</b>		
NRSM 210N	Soils, Water and Climate	3
Total Hours		3

Minimum Required Grade: C-

## Ecology

Code	Title	Hours
<b>Complete one of the following courses:</b>		
BIOE 370	General Ecology	3
FORS 330	Forest Ecology	
NRSM 462	Rangeland Ecology	
Total Hours		3

Minimum Required Grade: C-

## Policy

Code	Title	Hours
<b>Complete one of the following courses:</b>		
NRSM 370S	Wildland Conservation Policy/Governance	3
NRSM 422	Nat Res Policy/Administration	
WILD 410	Wildlife Policy & Biopolitics	
NRSM 427	Advanced Water Policy	
Total Hours		3

Minimum Required Grade: C-

## Social Science

Code	Title	Hours
<b>Complete one of the following courses:</b>		
NRSM 379	Collab in Nat Res Decisions	3
NRSM 424	Community Forestry & Conservtn	
NRSM 426	Climate and Society	
NRSM 475	Environment & Development	
PTRM 300	Recreation Behavior	
Total Hours		3

Minimum Required Grade: C-

## Ethics

Code	Title	Hours
<b>Complete one of the following courses:</b>		
NRSM 349E	Climate Change Ethics/Policy	3
or NRSM 389E	Ethics Forestry & Conservation	
Total Hours		3

Minimum Required Grade: C-

## Additional Required Courses

**Rule:** Must take at least 36 traditional letter-graded credits from the College of Forestry and Conservation (NRSM, WILD, FORS, PTRM, CCS 103X, CCS 352, CCS 391)

**Note:** In addition to the above requirements, Resource Conservation students are also required to take at least 10 additional credits in their area of emphasis. Students can choose courses from the following prefixes: BIOO, BIOE, CHMY, ENSC, FORS, GEOS, M, NRSM, PHSX, and WILD. Alternatively, students can take two semesters of a foreign language (or otherwise demonstrate foreign language proficiency).

All students must take at least 49 approved credits in the major.

Students double majoring with Resource Conservation and Ecological Restoration, Forestry, Wildlife Biology, and Parks, Tourism and Recreation Management must take an additional 9.0 credits in FORS, NRSM, PTRM, and WILD in addition to courses required by either of their majors. These additional 9.0 credits will be relevant to the student's track/emphasis with the major.

Minimum Required Grade: C-

## Upper-Division Writing Requirement

**Note:** The following courses count for the entire upper-division writing requirement (only one course is required): PTRM 451, PTRM 482.

Code	Title	Hours
<b>Complete three of the following courses:</b>		
BIOE 428	Freshwater Ecology	9
FORS 330	Forest Ecology	
FORS 341	Timber Harvesting & Roads	
FORS 347	Multiple Resource Silviculture	
FORS 349	Practice of Silviculture	
FORS 440	Forest Stand Management	
FORS 499	Senior Thesis	
NASX 403	Contmp Tribal Resource Issues	
NRSM 349E	Climate Change Ethics/Policy	
NRSM 379	Collab in Nat Res Decisions	
NRSM 389E	Ethics Forestry & Conservation	
NRSM 426	Climate and Society	
NRSM 462	Rangeland Ecology	
NRSM 465	Foundations of Restoration Ecology	
NRSM 475	Environment & Development	
NRSM 495	Ecosystem Science and Restoration Practicum	
NRSM 499	Senior Thesis	
PTRM 300	Recreation Behavior	
WILD 410	Wildlife Policy & Biopolitics	
Total Hours		9

Minimum Required Grade: C-

## Tracks

These are advising tracks only and not official programs as recognized by the University of Montana (UM) or the Montana University System. This

information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

## Climate & Environmental Change Track

**Note:** More detailed information about the Climate & Environmental Change track can be found on our website (<http://www.cfc.umt.edu/rc>); [www.cfc.umt.edu/rc](http://www.cfc.umt.edu/rc) (<http://www.cfc.umt.edu/rc>). Students in this track typically complete the Climate Change Minor (<http://www.cfc.umt.edu/ccs>) ([www.cfc.umt.edu/ccs](http://www.cfc.umt.edu/ccs)) (<http://www.cfc.umt.edu/ccs>). Please talk with your faculty advisor about which courses to take in this track.

Code	Title	Hours
CCS 103X	Intro Climate Change:Sci & Soc	3
CCS 352	Climate Field Studies	3
CCS 398	Clmt Change Internship/SERV	2-4
COMX 349	Communication, Consumption, and Climate	3
ECNS 445	Int Env Econ & Clim Change	3
FORS 232	Forest Insects & Diseases	2
FORS 333	Fire Ecology	3
GPHY 335	Water Policy	3
NRSM 349E	Climate Change Ethics/Policy	3
NRSM 379	Collab in Nat Res Decisions	3
NRSM 385	Watershed Hydrology	3
NRSM 408	Global Cycles and Climate	3
NRSM 415	Environmental Soil Science	3
NRSM 418	Ecosystem Climatology	3
NRSM 426	Climate and Society	3
PSCI 324	Climate Policies: China & U.S.	3
Total Hours		46-48

Minimum Required Grade: C-

## Ecology of Terrestrial Ecosystems Track

**Note:** Suggested courses for Ecology of Terrestrial Ecosystems. Please see more detailed description of this track online and talk with your faculty advisor about which courses to take in this track.

Code	Title	Hours
BIOB 170N	Princpls Biological Diversity	3
BIOB 272	Genetics and Evolution	4
BIOB 480	Conservation Genetics	3
BIOE 370	General Ecology	3
BIOE 428	Freshwater Ecology	5
BIOE 449	Plant Biogeography	3
BIOO 320	General Botany	5
BIOO 335	Rocky Mountain Flora	3
BIOO 433	Plant Physiology	3
CHMY 123	Introduction to Organic and Biochemistry	4
ECNS 201S	Principles of Microeconomics	3
FORS 240	Tree Biology	2
FORS 241N	Dendrology	3
FORS 330	Forest Ecology	3
FORS 347	Multiple Resource Silviculture	3
GEO 101N	Introduction to Physical Geology	3

M 162	Applied Calculus	4
NRSM 265	Elements of Ecological Restoration	3
NRSM 385	Watershed Hydrology	3
NRSM 408	Global Cycles and Climate	3
NRSM 415	Environmental Soil Science	3
NRSM 418	Ecosystem Climatology	3
NRSM 462	Rangeland Ecology	3
PHSX 205N	College Physics I	4
PHSX 206N	College Physics I Laboratory	1
STAT 216	Introduction to Statistics	4
WILD 275	Wildlife Conservation	2
Total Hours		86

Minimum Required Grade: C-

## Environmental Policy & Resources Planning Track

**Note:** Suggested courses in Environmental Policy and Resources Planning. Please see more detailed description of this track online and talk with your faculty advisor about which courses to take in this track.

Code	Title	Hours
ECNS 201S	Principles of Microeconomics	3
ECNS 202S	Principles of Macroeconomics	3
ECNS 433	Economics of the Environment	3
ENST 367	Environmental Politics & Policies	3
ENST 382	Environmental Law	3
FORS 320	Forest Environmental Economics	3
GPHY 335	Water Policy	3
GPHY 465	Planning Principles & Processes	3
GPHY 466	Environmental Planning	3
NRSM 121S	Nature of Montana	3
NRSM 349E	Climate Change Ethics/Policy	3
NRSM 379	Collab in Nat Res Decisions	3
NRSM 389E	Ethics Forestry & Conservation	3
NRSM 422	Nat Res Policy/Administration	3
NRSM 424	Community Forestry & Conservtn	3
NRSM 425	Nat Res & Envir Economics	3
PSCI 210S	Intro to American Government	3
PSCI 332	Global Environmental Pol.	3
PSCI 361	Public Administration	3
PSCI 461	Administrative Law	3
WILD 275	Wildlife Conservation	2
WILD 410	Wildlife Policy & Biopolitics	3
Total Hours		65

Minimum Required Grade: C-

## International Conservation Track

**Note:** Students in this track typically complete the International Development Studies Minor (<https://www.cas.umt.edu/IDS>) ([www.cas.umt.edu/IDS](https://www.cas.umt.edu/IDS)) ([http://www.cas.umt.edu/IDS](https://www.cas.umt.edu/IDS)). More detailed information about the International Conservation track can be found on our website (<https://www.cfc.umt.edu/rc>); [www.cfc.umt.edu/rc](http://www.cfc.umt.edu/rc) (<http://www.cfc.umt.edu/rc>).

www.cfc.umt.edu/rc). Please talk with your faculty advisor about which courses to take in this track.

Code	Title	Hours
ENST 225	Sustainable Communities	3
ENST 396	Supervised Internship (PEAS)	10
ENST 480	Food Justice and Sustainability	3
ENST 487	Globalization, Justice & Environment	3
ENST 493	Study Abroad: Environmental Justice Latin America	3
GPHY 432	Human Role Environmental Change	3
GPHY 434	Food and Famine	3
NRSM 170	International Envir. Change	3
NRSM 379	Collab in Nat Res Decisions	3
NRSM 424	Community Forestry & Conservtn	3
NRSM 475	Environment & Development	3
PTRM 345X	Sustaining Human Soc & Nat Env	3-6
PTRM 353	Tourism, Livelihoods and Sustainability in Mountains	3
PTRM 451	Tourism & Sustainability	3
WILD 460	Internat Wildlife Cons Issues	2
Total Hours		51-54

Minimum Required Grade: C-

### Natural Resource Economics Track

**Note:** Suggested courses in Natural Resource Economics. Please see more detailed description of this track online and talk with your faculty advisor about which courses to take in this track.

Code	Title	Hours
ANTY 326E	Indigenous Peoples & the Ethics of Development	3
ECNS 201S	Principles of Microeconomics	3
ECNS 202S	Principles of Macroeconomics	3
ECNS 217X	Issues in Economic Development	3
ECNS 301	Intermediate Micro with Calc	3
ECNS 302	Intermediate Macroeconomics	3
ECNS 403	Introduction to Econometrics	4
ECNS 433	Economics of the Environment	3
ECNS 445	Int Env Econ & Clim Change	3
ENST 230H	Nature and Society	3
ENST 480	Food Justice and Sustainability	3
FORS 320	Forest Environmental Economics	3
FORS 436	Project Appraisal	3
GPHY 323S	Economic Geography of Rural Areas	3
M 162	Applied Calculus	4
NRSM 121S	Nature of Montana	3
NRSM 379	Collab in Nat Res Decisions	3
NRSM 389E	Ethics Forestry & Conservation	3
NRSM 424	Community Forestry & Conservtn	3
NRSM 425	Nat Res & Envir Economics	3
SOCI 101S	Introduction to Sociology	3
SOCI 470	Environmental Sociology	3

SOCI 471	Gender and Global Development	3
WILD 275	Wildlife Conservation	2
Total Hours		73

Minimum Required Grade: C-

### Range Management & Grassland Ecology Track

**Note:** Suggested courses in Range Management & Grassland Ecology. Please see more detailed description of this track online and talk with your faculty advisor about which courses to take in this track.

Code	Title	Hours
BIOE 370	General Ecology	3
BIOE 447	Ecosystem Ecology	3
BIOE 458	Forest and Grassland Ecol	3
BIOO 105N	Introduction to Botany	3
BIOO 335	Rocky Mountain Flora	3
BIOO 433	Plant Physiology	3
ECNS 201S	Principles of Microeconomics	3
FORS 230	Fire Management & Environmental Change	3
FORS 250	Intro to GIS for Forest Mgt	3
FORS 333	Fire Ecology	3
GPHY 335	Water Policy	3
NRSM 121S	Nature of Montana	3
NRSM 265	Elements of Ecological Restoration	3
NRSM 360	Rangeland Mgt (equiv 260)	3
NRSM 379	Collab in Nat Res Decisions	3
NRSM 385	Watershed Hydrology	3
NRSM 462	Rangeland Ecology	3
WILD 275	Wildlife Conservation	2

Minimum Required Grade: C-

### Sustainable Livelihoods and Community Conservation Track

**Note:** Suggested courses in Sustainable Livelihoods and Community Conservation. Please see more detailed description of this track online and talk with your faculty advisor about which courses to take in this track.

Code	Title	Hours
COMX 347	Rhetoric, Nature, and Environmentalism	3
ECNS 433	Economics of the Environment	3
ENST 225	Sustainable Communities	3
ENST 480	Food Justice and Sustainability	3
ENST 489S	Environmental Justice Issues & Solutions	3
GPHY 323S	Economic Geography of Rural Areas	3
GPHY 432	Human Role Environmental Change	3
GPHY 468	Community & Regional Analysis	3
NRSM 170	International Envir. Change	3
NRSM 379	Collab in Nat Res Decisions	3
NRSM 424	Community Forestry & Conservtn	3
NRSM 475	Environment & Development	3
PHL 422	Environmental Philosophy	3

PTRM 451	Tourism & Sustainability	3
SOCI 220S	Race, Gender & Class	3
SOCI 270	Intro Development Sociology	3
SOCI 350	The Community	3
SOCI 443	Sociology of Poverty	3
SOCI 470	Environmental Sociology	3
SOCI 471	Gender and Global Development	3
Total Hours		60

Minimum Required Grade: C-

### Water Resources Track

**Note:** Suggested courses in Water Resources. Please see more detailed description of this track online and talk with you faculty advisor about which courses to take in this track.

Code	Title	Hours
BIOE 428	Freshwater Ecology	5
GEO 101N	Introduction to Physical Geology	3
GEO 102N	Introduction to Physical Geology Lab	1
GEO 420	Hydrogeology	4
GEO 421	Hydrology	3
GEO 460	Process Geomorphology	4
GPHY 335	Water Policy	3
M 172	Calculus II	4
M 171	Calculus I	4
NRSM 385	Watershed Hydrology	3
NRSM 415	Environmental Soil Science	3
NRSM 427	Advanced Water Policy	3
PHSX 205N	College Physics I	4
PHSX 206N	College Physics I Laboratory	1
PHSX 207N	College Physics II	4
PHSX 208N	College Physics II Laboratory	1
Total Hours		50

Minimum Required Grade: C-

### Wilderness Studies Track

**Note:** To complete this track students must enroll in the Wilderness and Civilization Program. For information and an application (<http://www.cfc.umt.edu/wc>) see [www.cfc.umt.edu/wc](http://www.cfc.umt.edu/wc) (<http://www.cfc.umt.edu/wc>). Please talk to a faculty advisor about additional coursework in this track.

Code	Title	Hours
ARTZ 394A	Seminar- Environmental Drawing	3
LIT 280L	Ecology of Literature	3
MUSI 304A	Sound in the Natural World	3
NASX 303E	Ecological Perspectives in Native American Traditions	3
NRSM 271N	Conservation Ecology	3
NRSM 273	Wilderness/Civ Field Stds	1-3
NRSM 370S	Wildland Conservation Policy/Governance	3
NRSM 371	Wilderness Issues Lect Series	1

NRSM 373	Wilderness and Civilization	3
NRSM 398	Internship	1-6

Minimum Required Grade: C-

### Wildland Fire Management Track

**Note:** Student in this track typically complete the Wildland Fire Sciences & Management Minor (<http://www.cfc.umt.edu/FireSciences>) ([www.cfc.umt.edu/FireSciences](http://www.cfc.umt.edu/FireSciences) (<http://www.cfc.umt.edu/FireSciences>)). Please see more detailed description of this track online and talk with your faculty advisor about which courses to take.

Code	Title	Hours
ECNS 201S	Principles of Microeconomics	3
ERTH 303N	Weather and Climate	3
FORS 202	Forest Mensuration	3
FORS 232	Forest Insects & Diseases	2
FORS 230	Fire Management & Environmental Change	3
FORS 241N	Dendrology	3
FORS 320	Forest Environmental Economics	3
FORS 331	Wildland Fuel Management	3
FORS 333	Fire Ecology	3
FORS 341	Timber Harvesting & Roads	3
FORS 347	Multiple Resource Silviculture	3
FORS 351	Env Remote Sensing	3
FORS 481	Forest Planning	3
FORS 495	Wildland RxFire Practicum	3
FORS 533	Use Fire Wldland Mgmt	3
GEO 101N	Introduction to Physical Geology	3
NRSM 265	Elements of Ecological Restoration	3
NRSM 385	Watershed Hydrology	3
NRSM 422	Nat Res Policy/Administration	3
PHSX 205N	College Physics I	4
PHSX 206N	College Physics I Laboratory	1
Total Hours		61

Minimum Required Grade: C-