

**College of Natural Resources  
Proposed Catalog Changes  
Effective Summer 2019**

1. Make the following curricular changes to the **Major in Environmental Science (B.S.Env.S.)**:

Required course work includes the university requirements (see regulation J-3), the general requirements for the B.S. degree, and:

<del>BIOL 115</del>	<del>Cells &amp; the Evolution of Life</del>	<del>3</del>
BIO 114	Organisms and Environments	4
<del>BIOL 115L</del>	<del>Cells and the Evolution of Life Laboratory</del>	<del>1</del>
<del>CHEM 111</del>	<del>Principles of Chemistry I<sup>+</sup></del>	<del>3</del>
<del>CHEM 111L</del>	<del>Principles of Chemistry I Laboratory</del>	<del>1</del>
COMM 101	Fundamentals of Public Speaking (OR one semester of a foreign language course)	2-4
OR COMM 233	Interpersonal Communication	
ENVS 101	Introduction to Environmental Science	3
ENVS 102	Field Activities in Environmental Sciences	1
ENVS 225	International Environmental Issues Seminar	3
ENVS 400	Seminar	1-16
ENVS 497	Senior Research (4 cr, 2 cr each semester of Senior year)	4
ENGL 316	Environmental Writing	3
OR ENGL 317	Technical Writing	3
OR ENGL 318	Science Writing	3
<del>PHIL 452</del>	<del>Environmental Philosophy</del>	<del>3</del>
STAT 251	Statistical Methods	3
or STAT 301	Probability and Statistics	
GEOG 100	Physical Geography	3
& GEOG 100L	Physical Geography Lab	1
OR GEOL 101	Physical Geology	3
& GEOL 101L	Physical Geology Lab	3
OR GEOL 111	Physical Geology for Science Majors	3
& GEOL 111L	Physical Geology for Science Majors Lab	1
OR SOIL 205	The Soil Ecosystem	3
&SOIL 206	The Soil Ecosystem Lab	1
<b>Ecology 1 course from the following:</b>		
BIOL 314	Ecology and Population Biology	4
FOR/REM 221	Principles of Ecology	3
OR WLF 220	Principles of Ecology	3
GEOG 410	Biogeography	3
NR 321	Ecology	3
<b>Environmental Policy and Regulations 1 course from the following:</b>		
AIST 314	Tribal Sovereignty and Federal Policy	3
AIST 421	Native American Natural Resource Law	
ENVS 477	Law, Ethics, and the Environment	
ENVS 479	Intro to Environmental Regulations	
IS 322	International Environmental Organizations	
NRS 311	Public Involvement in Natural Resource Management	
NRS/POLS	Politics of the Environment	

NRS/POLS Natural Resource

**Human Dimensions – 1 course from the following: 3-4**

AGEC 451 Applied Env. and Natural Resource Economics

AIST 344 Indigenous Ways of Knowing

SOC/ANTH 465 Environment Policy and Justice

HIST 424 American Environmental History

ECON 272 Foundations of Economic Analysis

GEOG 345 Global Economic Geography

PHIL 452 Environmental Philosophy

NRS/FOR 235 Society and Natural Resources

NRS 383 Natural Resource and Ecosystem Service Economics

SOC 350 Food, Culture, and Society

**Water 1 course from the following: 3-4**

ASM 315 Irrigation Systems and Water Management

BE 453 Northwest Climate and Water Resource Change

ENVS/SOIL 450 Environmental Hydrology

ENVS 446 Drinking Water and Human Health

FISH 415 Limnology

FOR 462 Watershed Science and Management

GEOL 309 Ground Water Hydrology

**Sustainability and Integration 1 course from the following: 3**

ENVS 415 Environmental Lifecycle Assessment

ENVS 428 Pollution Prevention

ENVS 484 History of Energy

ENVS 485 Energy Efficiency and Conservation

FS 436 Principles of Sustainability

GEOG 435 Climate Change Mitigation

ENVS 386 Social-Ecological Systems

REM 456 Integrated Rangeland Management

**Technical 3 courses from the following: 3-16**

BIOL 115 Cells and the Evolution of Life

BIO 250 General Microbiology

BIOL 483 Mammalogy

BIOL 489 Herpetology

CHEM 253 and 254 Quantitative Analysis and Lab

CHEM 275 Carbon Compounds

CHEM 277 Organic Chemistry 1

ENVS 498 Internship \*sub-note: *only allowed once*

FOR/NRS 375 Intro to Spatial Analysis for NR Management

OR GEOG 385 GIS Primer

FOR/NRS 472 Remote Sensing of the Environment

GEOG 301 Meteorology

GEOG 313 Global Climate Change

GEOG 401 Climatology

GEOG 483 Remote Sensing/GIS Integration

GEOL 361 Geology and the Environment

MATH 175 Analytic Geometry and Calculus 11

PHYS 111 General Physics I

PHYS 111L General Physics I Lab

PHYS 112 General Physics II

PHYS 112L General Physics II Lab

PHYS 211 Engineering Physics I

<a href="#">PHYS 211L</a>	<a href="#">Engineering Physics I Lab</a>
<a href="#">PHYS 212</a>	<a href="#">Engineering Physics II</a>
<a href="#">PHYS 212L</a>	<a href="#">Engineering Physics II Lab</a>
<a href="#">SOIL 205</a>	<a href="#">Soil Ecosystem</a>
<a href="#">WLF 482</a>	<a href="#">Ornithology</a>
<i>*for Phys. 2 Science Option only:</i>	
<a href="#">ENVS 428</a>	<a href="#">Pollution Prevention</a>
<a href="#">ENVS 429</a>	<a href="#">Environmental Audit</a>
<a href="#">GEOL 375</a>	<a href="#">Geology of National Parks</a>
<a href="#">REM 407</a>	<a href="#">GIS Application in Fire Ecology and Management</a>
<a href="#">REM 459</a>	<a href="#">Rangeland Ecology</a>

**Options**

Select one of the following options: 63-68

Biological Science

Physical Science

Physical Science 2

Social Science

Biophysical Science

**Total Hours 87-109**

Course List

<sup>1</sup> Students in Social Science option may substitute CHEM 101 & CHEM 101L.

**A. Biological Science Option**

This option is suitable for students wishing to pursue technically oriented careers in environmental professions such as natural resource management, bioremediation, and environmental impact analysis.

<del><a href="#">ENVS 497</a></del>	<del><a href="#">Senior Research</a></del>	<del>4</del>
BIOL 250	General Microbiology	3
CHEM 112	Principles of Chemistry II	4
CHEM 112L	Principles of Chemistry II Laboratory	1
<del><a href="#">ENGL 317</a></del>	<del><a href="#">Technical Writing</a></del>	<del>3</del>
MATH 160	Survey of Calculus	4
or MATH 170	Analytic Geometry and Calculus I	
<del><b>Select one of the following:</b></del>		<del>4</del>
<del><a href="#">GEOG 100 &amp; 100L</a></del>	<del><a href="#">Physical Geography and Physical Geography Lab</a></del>	
<del><a href="#">GEOL 101 &amp; 101L</a></del>	<del><a href="#">Physical Geology and Physical Geology Lab</a></del>	
<del><b>Select 24 credits of Advisor directed breadth electives, including at least one course from the first four areas and 9 credits from the technical area:</b></del>		<del>24</del>
<del><b>Ecology:</b></del>		
<del><a href="#">BIOL 314</a></del>	<del><a href="#">Ecology and Population Biology</a></del>	
<del><a href="#">FOR 221</a></del>	<del><a href="#">Principles of Ecology</a></del>	
<del><a href="#">GEOG 410</a></del>	<del><a href="#">Biogeography</a></del>	
<del><a href="#">REM 221</a></del>	<del><a href="#">Principles of Ecology</a></del>	
<del><b>Natural Resource Economics and Sociology:</b></del>		
<del><a href="#">AGEC 451</a></del>	<del><a href="#">Applied Environmental and Natural Resource Economics</a></del>	
<del><a href="#">NRS 383</a></del>	<del><a href="#">Natural Resource and Ecosystem Service Economics</a></del>	
<del><a href="#">ECON 385</a></del>	<del><a href="#">Environmental Economics</a></del>	
<del><a href="#">FOR 235</a></del>	<del><a href="#">Society and Natural Resources</a></del>	

~~**Management:**~~

<u>OM 378</u>	Project Management
<u>NRS 311</u>	Public Involvement in Natural Resource Management
<u>ENVS 428</u>	Pollution Prevention
<u>FOR 484</u>	Forest Policy and Administration
<u>GEOG 411</u>	Natural Hazards and Society
<b><i>History, Philosophy, and Political Science:</i></b>	
<u>AGEC 477</u>	Law, Ethics and the Environment
<u>ENVS 484</u>	History of Energy
<u>HIST 424</u>	American Environmental History
<u>PHIL 351</u>	Philosophy of Science
<u>POLS 364</u>	Politics of the Environment
<b><i>Technical:</i></b>	
<u>CHEM 253</u> & <u>CHEM 254</u>	Quantitative Analysis and Quantitative Analysis: Lab
<u>CHEM 275</u>	Carbon Compounds <sup>3</sup>
<u>CHEM 277</u>	Organic Chemistry I <sup>3</sup>
<u>ENVS 498</u>	Internship
<u>FOR 472</u>	Remote Sensing of the Environment
<u>GEOG 301</u>	Meteorology
<u>GEOG 313</u>	Global Climate Change
<u>GEOG 401</u>	Climatology
<u>GEOG 385</u>	GIS Primer
<u>GEOL 309</u>	Ground Water Hydrology
<u>GEOL 361</u>	Geology and the Environment
<u>MATH 175</u>	Analytic Geometry and Calculus II
<u>PHYS 111</u> & <u>111L</u>	General Physics I and General Physics I Lab <sup>2</sup>
<u>PHYS 211</u> & <u>211L</u>	Engineering Physics I and Laboratory Physics I <sup>2</sup>
<u>PHYS 112</u> & <u>112L</u>	General Physics II and General Physics II Lab <sup>3</sup>
<u>PHYS 212</u> & <u>212L</u>	Engineering Physics II and Laboratory Physics II <sup>3</sup>
<u>SOIL 205</u>	The Soil Ecosystem

**Select 4 Advisor-approved depth electives in any area unless otherwise noted from at least two of the following areas: 20**

***Plant Protection:***

ENT 322	General and Applied Entomology
PLSC 338	Weed Control
PLSC 410	Invasive Plant Biology
PLP 415	Plant Pathology
SOIL 446	Soil Fertility

***Animal Ecology:***

WLF 314	Ecology of Terrestrial Vertebrates
WLF 315	Techniques Laboratory
WLF 440	Conservation Biology <sup>4</sup>
WLF 448	Fish and Wildlife Population Ecology <sup>4</sup>

***Aquatic Ecology (Take all three courses):***

FISH 314	Fish Ecology
FISH 415	Limnology

FISH 430	Riparian Ecology and Management
<b>Forest and Range Systems:</b>	
FOR 330	Forest Soil and Canopy Processes
FOR 426	Global Fire Ecology and Management
REM 411	Ecological Monitoring and Analysis
REM 429	Landscape Ecology
REM 440	Wildland Restoration Ecology
REM 459	Rangeland Ecology
<b>Soils:</b>	
FS 409	Principles of Environmental Toxicology
SOIL 425	Microbial Ecology
SOIL 438	Pesticides in the Environment
SOIL 454	Pedology
<b>Water:</b>	
ENVS 450	Environmental Hydrology
ENVS 446	Drinking Water and Human Health
FOR 462	Watershed Science and Management
GEOL 309	Ground Water Hydrology
GEOL 410	Techniques of Groundwater Study
HYDR 412	Environmental Hydrogeology
<b>Geospatial Tools (take at least 3 of the 6 courses listed below):</b>	
FOR 472	Remote Sensing of the Environment
GEOG 385	GIS Primer
GEOG 424	Hydrologic Applications of GIS and Remote Sensing
GEOG 475	Intermediate GIS
GEOG 483	Remote Sensing/GIS Integration
LARC 495	GIS Applications in Land Planning 2
<b>Climate Change and Ecosystems (Take all three courses):</b>	
NRS 383	Natural Resource and Ecosystem Service Economics
GEOG 313	Global Climate Change
GEOG 410	Biogeography

**Total Hours** **67**

Course List

**Courses to total 120 credits for this degree**

- <sup>1</sup> Either CHEM 275 or CHEM 277 may be used as a technical breadth elective.
- <sup>2</sup> Either PHYS 111/PHYS 111L or PHYS 211/PHYS 211L may be used as a technical breadth elective.
- <sup>3</sup> Either PHYS 112/PHYS 112L or PHYS 212/PHYS 212L may be used as a technical breadth elective.
- <sup>4</sup> *Either WLF 440 or WLF 448 may be used as a depth elective.*

**B. Physical Science Option**

This option is suitable for students wishing to pursue technical careers in environmental professions such as air, soil, and water pollution abatement, hazardous waste management, waste minimization, and ecological restoration.

<u>ENVS 497</u>	Senior Research	4
<u>CHEM 112</u>	Principles of Chemistry II	4
<u>CHEM 112L</u>	Principles of Chemistry II Laboratory	1
<u>ENGL 317</u>	Technical Writing	3
<u>MATH 170</u>	Analytic Geometry and Calculus I	4

<u>PHYS 111</u>	General Physics I	3
<u>PHYS 111L</u>	General Physics I Lab	1
Select one of the following:		4
<u>GEOG 100</u> & <u>100L</u>	Physical Geography and Physical Geography Lab	
<u>GEOL 101</u> & <u>101L</u>	Physical Geology and Physical Geology Lab	
Select Advisor-Directed breadth electives, including at least one course from the first four areas and 9 credits from the technical area:		24
<b><i>Ecology:</i></b>		
<u>BIOL 314</u>	Ecology and Population Biology	
<u>FOR 221</u>	Principles of Ecology	
<u>GEOG 410</u>	Biogeography	
<u>REM 221</u>	Principles of Ecology	
<b><i>Natural Resource Economics and Sociology:</i></b>		
<u>AGEC 451</u>	Applied Environmental and Natural Resource Economics	
<u>NRS 383</u>	Natural Resource and Ecosystem Service Economics	
<u>ECON 385</u>	Environmental Economics	
<u>FOR 235</u>	Society and Natural Resources	
<b><i>Management:</i></b>		
<u>OM 378</u>	Project Management	
<u>NRS 311</u>	Public Involvement in Natural Resource Management	
<u>ENVS 428</u>	Pollution Prevention	
<u>FOR 484</u>	Forest Policy and Administration	
<u>GEOG 411</u>	Natural Hazards and Society	
<u>REM 456</u>	Integrated Rangeland Management	
<b><i>History, Philosophy, and Political Science:</i></b>		
<u>AGEC 477</u>	Law, Ethics and the Environment	
<u>HIST 424</u>	American Environmental History	
<u>PHIL 351</u>	Philosophy of Science	
<u>POLS 364</u>	Politics of the Environment	
<b><i>Technical:</i></b>		
<u>CHEM 253</u> & <u>CHEM 254</u>	Quantitative Analysis and Quantitative Analysis Lab	
<u>CHEM 275</u>	Carbon Compounds <sup>1</sup>	
<u>CHEM 277</u>	Organic Chemistry I <sup>1</sup>	
<u>ENVS 498</u>	Internship	
<u>FOR 472</u>	Remote Sensing of the Environment	
<u>GEOG 301</u>	Meteorology	
<u>GEOG 313</u>	Global Climate Change	
<u>GEOG 401</u>	Climatology	
<u>GEOG 385</u>	GIS Primer	
<u>GEOL 309</u>	Ground Water Hydrology	
<u>GEOL 361</u>	Geology and the Environment	
<u>MATH 175</u>	Analytic Geometry and Calculus II	
<u>PHYS 211</u> & <u>211L</u>	Engineering Physics I and Laboratory Physics I	
<u>PHYS 112</u> & <u>112L</u>	General Physics II and General Physics II Lab <sup>2</sup>	
<u>PHYS 212</u>	Engineering Physics II	

~~& 212L~~ and Laboratory Physics II-<sup>2</sup>  
~~SOIL 205~~ The Soil Ecosystem

Select 4 Advisor-approved depth electives in any area unless otherwise noted from at least two of the following areas: 20

**Water:**

ENVS 446	Drinking Water and Human Health
ENVS 450	Environmental Hydrology
FOR 462	Watershed Science and Management
GEOL 309	Ground Water Hydrology
GEOL 410	Techniques of Groundwater Study
HYDR 412	Environmental Hydrogeology

**Hazardous Waste:**

BE 433	Bioremediation
BE 452	Environmental Water Quality
BIOL 380	Biochemistry I
CHEM 418	Environmental Chemistry
ENVS 479	Introduction to Environmental Regulations
FS 409	Principles of Environmental Toxicology

**Geology:**

GEOL 335	Geomorphology
GEOL 361	Geology and the Environment
GEOL 422	Principles of Geophysics
GEOL 423	Principles of Geochemistry

**Mathematics and Statistics:**

MATH 175	Analytic Geometry and Calculus II
MATH 275	Analytic Geometry and Calculus III
MATH 310	Ordinary Differential Equations
STAT 431	Statistical Analysis

**Soils:**

CHEM 418	Environmental Chemistry
SOIL 415	Soil and Environmental Physics
SOIL 422	Environmental Soil Chemistry
SOIL 454	Pedology

**Economics and Management (take all three courses):**

OM 378	Project Management
ECON 385	Environmental Economics
ENVS 428	Pollution Prevention

**Geospatial Tools (take at least 3 of the 4 courses):**

FOR 472	Remote Sensing of the Environment
GEOG 385	GIS Primer
GEOG 424	Hydrologic Applications of GIS and Remote Sensing
GEOG 483	Remote Sensing/GIS Integration

**Climate Change and Emissions Reduction:**

ENVS 485	Energy Efficiency and Conservation
GEOG 313	Global Climate Change
GEOG 401	Climatology
GEOG 435	Climate Change Mitigation

**Total Hours**

**68**

Course List

**Courses to total 120 credits for this degree**

<sup>1</sup> Either CHEM 275 or CHEM 277 may be used as a technical breadth elective.

<sup>2</sup> PHYS 112/PHYS 112L or PHYS 212/PHYS 212L may be used as a technical breadth elective.

### C. Physical Science 2 Option

This option is only available to students in Coeur d'Alene and Idaho Falls.

<u>ENVS 497</u>	Senior Research	3
<u>CHEM 112</u>	Principles of Chemistry II	4
<u>CHEM 112L</u>	Principles of Chemistry II Laboratory	1
<u>ENGL 317</u>	Technical Writing	3
<u>PHYS 111</u>	General Physics I	3
<u>PHYS 111L</u>	General Physics I Lab	1
<u>MATH 160</u> or <u>MATH 170</u>	Survey of Calculus Analytic Geometry and Calculus I	4
Select one of the following:		4
<u>GEOG 100</u> & <u>100L</u>	Physical Geography and Physical Geography Lab	
<u>GEOL 101</u> & <u>101L</u>	Physical Geology and Physical Geology Lab	
Select Advisor Directed breadth electives, including at least one course from the first four areas and 9 credits from the technical area:		24
<b><u>Ecology:</u></b>		
<u>BIOL 314</u>	Ecology and Population Biology	
<u>FOR 221</u>	Principles of Ecology	
<u>REM 221</u>	Principles of Ecology	
<b><u>Natural Resource Economics and Sociology:</u></b>		
<u>ECON 201</u>	Principles of Macroeconomics	
<u>ECON 202</u>	Principles of Microeconomics	
<u>ECON 272</u>	Foundations of Economic Analysis	
<u>INDT 415</u>	Impact of Technology on Society	
<b><u>Management:</u></b>		
<u>ENVS 436</u>	Principles of Sustainability	
<u>ENVS 479</u>	Introduction to Environmental Regulations	
<u>FOR 426</u>	Global Fire Ecology and Management	
<u>GEOG 424</u>	Hydrologic Applications of GIS and Remote Sensing	
<b><u>History, Philosophy, and Political Science:</u></b>		
<u>ENVS 484</u>	History of Energy	
<u>HIST 461</u>	Idaho and the Pacific Northwest	
<u>POLS 364</u>	Politics of the Environment	
<b><u>Technical:</u></b>		
<u>BIOL 114</u>	Organisms and Environments	
<u>CHEM 253</u> & <u>CHEM 254</u>	Quantitative Analysis and Quantitative Analysis: Lab	
<u>CHEM 275</u>	Carbon Compounds	
<u>CHEM 277</u>	Organic Chemistry I	
<u>ENVS 428</u>	Pollution Prevention	
<u>ENVS 429</u>	Environmental Audit	
<u>ENVS 498</u>	Internship	
<u>GEOG 385</u>	GIS Primer	
<u>GEOL 309</u>	Ground Water Hydrology	
<u>GEOL 375</u>	Geology of National Parks	

<del>MATH 175</del>	<del>Analytic Geometry and Calculus II</del>
<del>PHYS 112</del>	<del>General Physics II</del>
<del>&amp; 112L</del>	<del>and General Physics II Lab<sup>4</sup></del>
<del>PHYS 212</del>	<del>Engineering Physics II</del>
<del>&amp; 212L</del>	<del>and Laboratory Physics II<sup>4</sup></del>
<del>REM 407</del>	<del>GIS Application in Fire Ecology and Management</del>
<del>REM 440</del>	<del>Wildland Restoration Ecology</del>
<del>REM 459</del>	<del>Rangeland Ecology</del>
<del>SOIL 205</del>	<del>The Soil Ecosystem</del>

**Select 4 Advisor-approved depth electives in any area unless otherwise noted from at least two of the following areas: 20**

***Water:***

CE 433	Water Quality Management
ENVS 450	Environmental Hydrology
FISH 540	Wetland Restoration
GEOL 309	Ground Water Hydrology
HYDR 414	Ground Water-Surface Water Interactions

***Mathematics and Statistics:***

MATH 175	Analytic Geometry and Calculus II
MATH 275	Analytic Geometry and Calculus III
MATH 310	Ordinary Differential Equations
STAT 431	Statistical Analysis

***Management Tools (take three of the following):***

ENVS 415	Environmental Lifecycle Assessment
ENVS 428	Pollution Prevention
GEOG 385	GIS Primer
GEOG 475	Intermediate GIS
GEOG 424	Hydrologic Applications of GIS and Remote Sensing
INDT 364	Hazardous Materials
INDT 448	Project and Program Management

***Environmental Policy and Regulations (Take three of the following):***

NRS 572	Human Dimensions of Restoration Ecology
ENVS 429	Environmental Audit
ENVS 436	Principles of Sustainability
ENVS 479	Introduction to Environmental Regulations
ENVS 482	Natural Resource Policy and Law

***Energy Systems:***

GEOG 453	Water and Energy Systems
ENVS 484	History of Energy
ENVS 485	Energy Efficiency and Conservation
INDT 415	Impact of Technology on Society
INDT 434	Power Generation and Distribution

***Sustainability Science:***

ENVS 415	Environmental Lifecycle Assessment
ENVS 428	Pollution Prevention
ENVS 436	Principles of Sustainability
FS 409	Principles of Environmental Toxicology
INDT 457	Lean to Green Sustainable Technology

**Total Hours**

**67**

Course List

**Courses to total 120 credits for this degree**

<sup>1</sup> Either PHYS 112 / PHYS 112L or PHYS 212 / PHYS 212L may be used as a technical breadth elective.

**D. Social Science Option**

This option is suitable for students wishing to pursue careers in environmental professions such as environmental regulation, land use planning, environmental administration, and as a pre-law program for environmental law.

ENGL 309	Rhetorical Style	3
<u>OR ENGL 202</u>	<u>Introduction to Professional Writing</u>	<u>3</u>
<u>OR PHIL 201</u>	<u>Critical Thinking</u>	<u>3</u>
<u>or JAMM 428</u>	<u>Environmental Journalism</u>	
<u>SOC/ANTH 309</u>	<u>Social Science Methods</u>	<u>3</u>
<u>OR NRS 310</u>	<u>Social Science Methods</u>	<u>4</u>
<u>ENGL 316</u>	<u>Environmental Writing</u>	<u>3</u>
<u>or ENGL 317</u>	<u>Technical Writing</u>	
<u>ENVS 497</u>	<u>Senior Research</u>	<u>4</u>
<u>GEOG 100</u>	<u>Physical Geography</u>	<u>3</u>
<u>GEOG 100L</u>	<u>Physical Geography Lab</u>	<u>1</u>
<u>GEOL 101</u>	<u>Physical Geology</u>	<u>3</u>
<u>GEOL 101L</u>	<u>Physical Geology Lab</u>	<u>1</u>
<u>MATH 143</u>	<u>Pre-calculus Algebra and Analytic Geometry</u>	<u>3</u>
<u>PHIL 201</u>	<u>Critical Thinking</u>	<u>3</u>
<u>or POLS 235</u>	<u>Political Research Methods and Approaches</u>	
<b>Select Advisor-Directed breadth electives, including at least one course from the first four areas and 9 credits from the technical area:</b>		<b>24</b>
<b><i>Ecology:</i></b>		
<u>BIOL 314</u>	<u>Ecology and Population Biology</u>	
<u>FOR 221</u>	<u>Principles of Ecology</u>	
<u>GEOG 410</u>	<u>Biogeography</u>	
<u>REM 221</u>	<u>Principles of Ecology</u>	
<b><i>Natural Resource Economics and Sociology:</i></b>		
<u>AGEC 451</u>	<u>Applied Environmental and Natural Resource Economics</u>	
<u>NRS 383</u>	<u>Natural Resource and Ecosystem Service Economics</u>	
<u>ENVS 428</u>	<u>Pollution Prevention</u>	
<u>ECON 385</u>	<u>Environmental Economics</u>	
<u>FOR 235</u>	<u>Society and Natural Resources</u>	
<b><i>Management:</i></b>		
<u>OM 378</u>	<u>Project Management</u>	
<u>NRS 311</u>	<u>Public Involvement in Natural Resource Management</u>	
<u>FOR 484</u>	<u>Forest Policy and Administration</u>	
<u>GEOG 411</u>	<u>Natural Hazards and Society</u>	
<u>REM 456</u>	<u>Integrated Rangeland Management</u>	
<b><i>History, Philosophy, and Political Science:</i></b>		
<u>AGEC 477</u>	<u>Law, Ethics and the Environment</u>	
<u>ENVS 484</u>	<u>History of Energy</u>	
<u>HIST 424</u>	<u>American Environmental History</u>	
<u>PHIL 351</u>	<u>Philosophy of Science</u>	
<u>POLS 364</u>	<u>Politics of the Environment</u>	
<b><i>Technical:</i></b>		
<u>CHEM 253</u>	<u>Quantitative Analysis</u>	
<u>&amp; CHEM 254</u>	<u>and Quantitative Analysis: Lab</u>	
<u>CHEM 275</u>	<u>Carbon Compounds<sup>+</sup></u>	

<u>CHEM 277</u>	Organic Chemistry I <sup>1</sup>
<u>ENVS 498</u>	Internship
<u>FOR 472</u>	Remote Sensing of the Environment
<u>GEOG 301</u>	Meteorology <sup>2</sup>
<u>GEOG 313</u>	Global Climate Change <sup>2</sup>
<u>GEOG 401</u>	Climatology
<u>GEOG 385</u>	GIS Primer
<u>GEOL 309</u>	Ground Water Hydrology
<u>GEOL 361</u>	Geology and the Environment
<u>MATH 175</u>	Analytic Geometry and Calculus II
<u>PHYS 111</u> & <u>111L</u>	General Physics I and General Physics I Lab <sup>3</sup>
<u>PHYS 211</u> & <u>211L</u>	Engineering Physics I and Laboratory Physics I <sup>3</sup>
<u>PHYS 112</u> & <u>112L</u>	General Physics II and General Physics II Lab <sup>4</sup>
<u>PHYS 212</u> & <u>212L</u>	Engineering Physics II and Laboratory Physics II <sup>4</sup>
<u>SOIL 205</u>	The Soil Ecosystem
<b>Select 5 Advisor-approved depth electives one of the following areas:</b>	
<b>15</b>	
<b><i>Policy and Law:</i></b>	
ENVS 479	Introduction to Environmental Regulations
PHIL 470	Philosophy of Law
POLS 364	Politics of the Environment
POLS 467	Constitutional Law
POLS 468	Civil Liberties
<b><i>Administration and Planning:</i></b>	
ACCT 482	Enterprise Accounting
COMM 410	Conflict Management
NRS 386	Social-Ecological Systems
NRS 387	Environmental Communication Skills
<u>ECON 385</u>	<u>Environmental Economics</u>
FOR/ <u>NRS</u> 484	Forest Policy and Administration
GEOG 330	Urban Geography
POLS 364	Politics of the Environment
POLS 451	Public Administration
POLS 454	Public Organization Theory
POLS 462	Natural Resource Policy
PSYC 416	Industrial/Organizational Psychology
NRS 475	Local and Regional Environmental Planning
<b><i>Green Building and Community Design:</i></b>	
ARCH 151	Introduction to the Built Environment
ARCH 266	Materials and Methods
ARCH 463	Environmental Control Systems I
ARCH 464	Environmental Control Systems II
GEOG 435	Climate Change Mitigation
GEOG 486	Transportation, GIS & Planning
LARC 380	Water Conservation Technologies
LARC 480	The Resilient Landscape

***Climate Change - Human Dimensions:***

ECON 385	Environmental Economics	
ENVS 479	Introduction to Environmental Regulations	
ENVS 484	History of Energy	
ENVS 485	Energy Efficiency and Conservation	
GEOG 313	Global Climate Change	
GEOG 435	Climate Change Mitigation	
GEOG 455	Societal Resilience and Adaptation to Climate Change	
NRS 383	Natural Resource and Ecosystem Service Economics	
<u>GEOG 411</u>	<u>Natural Hazards and Society</u>	

**Total Hours** **63**

Course List

**Courses to total 120 credits for this degree**

<sup>1</sup> Either CHEM 275 or CHEM 277 may be used as a technical breadth elective.

<sup>2</sup> Either GEOG 301 or GEOG 401 may be used as a technical breadth elective.

<sup>3</sup> Either PHYS 111 / PHYS 111L or PHYS 211 / PHYS 211L may be used as a technical breadth elective.

<sup>4</sup> Either PHYS 112 / PHYS 112L or PHYS 212 / PHYS 212L may be used as a technical breadth elective.

**E. Biophysical Science Option**

This option is intended for students at a distance wishing to pursue technically oriented careers in environmental professions such as natural resource management, bioremediation, and environmental impact analysis. Students need to work closely with an academic advisor to plan the courses needed to fulfill degree requirements which are not available through distance delivery.

BIOL 250 or PHYS 111	General Microbiology General Physics I	3
ENGL 317	Technical Writing	3
ENVS 497	Senior Research	2-4
MATH 170	Analytic Geometry and Calculus I	4
<b>Select one of the following:</b>		<b>4</b>
GEOG 100 & 100L	Physical Geography and Physical Geography Lab	
GEOL 101 & 101L	Physical Geology and Physical Geology Lab	

**Select 48 credits of Advisor-directed breadth electives, including at least one course from each of the following depth areas (all are available online):** **48**

***Water and Soils:***

BE 452	Environmental Water Quality	
ENVS 446	Drinking Water and Human Health	
ENVS 450	Environmental Hydrology	
SOIL 205	The Soil Ecosystem	
SOIL 438	Pesticides in the Environment	
SOIL 446	Soil Fertility	

***Sustainability:***

ENVS 428	Pollution Prevention	
FCS 411	Global Nutrition	
FS 409	Principles of Environmental Toxicology	
FS 436	Principles of Sustainability	
GEOG 313	Global Climate Change	
INDT 415	Impact of Technology on Society	

***Ecology:***

FOR 426	Global Fire Ecology and Management
REM 221	Principles of Ecology
REM 410	Principles of Vegetation Monitoring and Measurement
REM 440	Wildland Restoration Ecology
REM 459	Rangeland Ecology
WLF 440	Conservation Biology
<b>Energy:</b>	
ENVS 484	History of Energy
ENVS 485	Energy Efficiency and Conservation
<b>Geographical Information Systems:</b>	
GEOG 385	GIS Primer
GEOG 424	Hydrologic Applications of GIS and Remote Sensing
REM 407	GIS Application in Fire Ecology and Management
<b>Social Science:</b>	
IS 322	International Environmental Organizations
ENVS 428	Pollution Prevention
ENVS 484	History of Energy
FCS 411	Global Nutrition
INDT 415	Impact of Technology on Society
<b>Total Hours</b>	<b>64-66</b>

**Courses to total 120 credits for this degree.**

**Available via distance:** 50% or more of curricular requirements can be completed via distance

**Geographical area:** Moscow, CDA, Idaho Falls

**Rationale:** During the Summer of 2018, the EnvS Curriculum Committee processed a series of multi-purpose changes reflected in these recommendations. The recommendations include: 1) broadening the Core curriculum for the Program to make it more contemporary; 2) clarifying the Option-Core components for each Option in order to customize appropriate coursework needed for different emphases; 3) consolidating the former "Breadth Elective" areas into the Core curriculum for improved 4-year degree reliability and efficiency; and, 4) alignment and improvement of overall course availability and options per current and appropriate offerings for students in the Program. The recommendations are primarily additions and re-structuring to make the complex curricula offered by the Program more easily understood, user-friendly, and aligned to the University's Strategic Plan needs. Coursework assessment will remain the same. Program assessment includes in-person and online forums to solicit student feedback on benefits and challenges within the Program. Identifiers are removed from all assessment data. The recommendations do not require any change in workload within respective Units.