

**College of Natural Resources
Proposed Catalog Changes
Effective Summer 2018**

ENVIRONMENTAL SCIENCE

1. Make the following curricular changes to the **Professional Science Master (P.S.M.)**:

Professional Science Master. Major in Natural Resources and Environmental Science.

~~Contact the Director of the Program in Environmental Science for information regarding this degree.~~

The Professional Science Master (P.S.M.) degree is a partnership of the University of Idaho and regional employers, where graduates are immersed in enhanced learning and are faced with real-world learning scenarios. The P.S.M. is a national program with over 165 partner institutions participating in coordination with the National Professional Science Masters Association (NPSMA).

There are 3 requirements for the P.S.M. degree in Natural Resources and Environmental Science: (1) 12 credits of professional skills courses, (2) 15 credits in the student's Emphasis Area, and (3) 3 credits of elective skills courses.

Professional Skills Courses (12 cr):

At least three of the four skills courses must be taken at the 500 level. Joint listed courses must be taken at the graduate level. At least two of the skills courses must be designated PSM core courses, which include BUS 551, BUS 552, and ENG 522.

Scientific Communication (3cr):

<u>ENGL 522</u>	<u>Communications for Science Professionals</u>	<u>3 Credits</u>
<u>FOR 546</u>	<u>Science Synthesis and Communication</u>	<u>3 credits</u>
<u>AOLL 528</u>	<u>Program Planning Development Evaluation</u>	<u>3 credits</u>

Scientific Ethics (3cr):

<u>PHIL 450</u>	<u>Ethics and Science</u>	<u>3 Credits</u>
<u>PHIL 552</u>	<u>Environmental Philosophy</u>	<u>3 Credits</u>

Leadership and Innovation (3cr):

<u>BUS 552</u>	<u>Management of Scientific Innovation</u>	<u>3 Credits</u>
<u>MHR 513</u>	<u>Leadership and Organizational Behavior</u>	<u>3 Credits</u>
<u>AOLL 583</u>	<u>Organizational Leadership</u>	<u>3 Credits</u>
<u>EDAD 530</u>	<u>Ethical Leadership and Law in Education</u>	<u>3 Credits</u>

Managing Projects and Budgets (3cr):

<u>BUS 551</u>	<u>Managing Scientific Projects</u>	<u>3 Credits</u>
<u>ACCT 482 / ACCT 582</u>	<u>Enterprise Accounting</u>	<u>3 Credits</u>

COMM 410 Non-profit fundraising 3 Credits

Emphasis Area Courses (15 cr):

The following scientific tracks serve as emphasis areas. Students must select 15 credits of electives from one of these tracks.

Environmental Contamination

<u>ENVS 450</u>	<u>Environmental Hydrology</u>	<u>3 Credits</u>
<u>FS 564</u>	<u>Food Toxicology</u>	<u>3 Credits</u>
<u>ENVS 428</u>	<u>Pollution Prevention</u>	<u>3 Credits</u>
<u>ENVS 541</u>	<u>Sampling and Analysis of Environmental Contamination</u>	<u>3 Credits</u>
<u>ENVS 579</u>	<u>Introduction to Environmental Regulations</u>	<u>3 Credits</u>
<u>FS 509</u>	<u>Environmental Toxicology</u>	<u>3 Credits</u>
<u>SOIL 438</u>	<u>Pesticides in the Environment</u>	<u>3 Credits</u>
<u>FOR 554</u>	<u>Air Quality, Pollution, and Smoke</u>	<u>3 Credits</u>

Sustainability Science

<u>AGEC/ENVS 577</u>	<u>Law, Ethics and the Environment</u>	<u>3 Credits</u>
<u>ARCH 516</u>	<u>Social Sustainability of Contemporary Cities</u>	<u>3 Credits</u>
<u>POLS 573</u>	<u>Sustainable Community Development Planning</u>	<u>3 Credits</u>
<u>REM 440</u>	<u>Wildland Restoration Ecology</u>	<u>3 Credits</u>
<u>ENVS 485</u>	<u>Energy Efficiency and Conservation</u>	<u>3 Credits</u>
<u>ENVS 428</u>	<u>Pollution Prevention</u>	<u>3 Credits</u>
<u>GEOG 513</u>	<u>Global Climate Change</u>	<u>3 Credits</u>
<u>GEOG 455</u>	<u>Societal Resilience and Adaption to Climate Change</u>	<u>3 Credits</u>
<u>FS 509</u>	<u>Environmental Toxicology</u>	<u>3 Credits</u>
<u>FISH 540</u>	<u>Wetland Restoration</u>	<u>3 Credits</u>
<u>ENVS 536</u>	<u>Principals of Sustainability</u>	<u>3 Credits</u>
<u>WR 506</u>	<u>Interdisciplinary Methods in Water Resources</u>	<u>3 Credits</u>

Climate Change

<u>BE 553</u>	<u>NW Climate Change and Water Resources</u>	<u>3 Credits</u>
<u>BIOP 520</u>	<u>Introduction to Bioregional Planning</u>	<u>3 Credits</u>
<u>FOR 462</u>	<u>Watershed Science and Management</u>	<u>3 Credits</u>
<u>GEOG 401</u>	<u>Climatology</u>	<u>3 Credits</u>
<u>GEOG 410</u>	<u>Biogeography</u>	<u>3 Credits</u>
<u>GEOG 420</u>	<u>Land, Resources and the Environment</u>	<u>3 Credits</u>
<u>GEOG 455</u>	<u>Societal Resilience and Adaption to Climate Change</u>	<u>3 Credits</u>
<u>NRS 510</u>	<u>Applications of Communications Theory in Natural Resource Management</u>	<u>3 Credits</u>
<u>GEOG 513</u>	<u>Global Climate Change</u>	<u>3 Credits</u>

Water Resources Management

ENVS 450	Environmental Hydrology	3 Credits
BE 552	Environmental Water Quality	3 Credits
NRS 573	Panning and Decision Making for Water Management	3 Credits
ENVS 546	Drinking Water and Human Health	3 Credits
FISH 540	Wetland Restoration	3 Credits
FOR 462	Watershed Science and Management	3 Credits
GEOG 524	Hydrological Applications of GIS and Remote Sensing	3 Credits
HYDR 512	Environmental Hydrogeology	3 Credits
WR 506	Interdisciplinary Methods in Water Resources	3 Credits
NRS 510	Applications of Communications Theory in Natural Resource Management	3 Credits

Management of Regulated River Systems

FISH 515	Large River Fisheries	3 Credits
FISH 430	Riparian Ecology and Management	3 Credits
CE 421	Engineering Hydrology	3 Credits
CE 428	Open Channel Hydraulics	3 Credits
CE/ME 520	Fluid Dynamics	3 Credits
CE 535	Fluvial Geomorphology and River Mechanics	3 Credits
NRS 573	Panning and Decision Making for Water Management	3 Credits
NRS 510	Applications of Communications Theory in Natural Resource Management	3 Credits

Ecohydrological Science and Management

ENVS 450	Environmental Hydrology	3 Credits
BE 552	Environmental Water Quality	3 Credits
FISH 415	Limnology	4 Credits
FISH 430	Riparian Ecology and Management	3 Credits
FISH 515	Large River Fisheries	3 Credits
FISH 540	Wetland Restoration	3 Credits
FOR 462	Watershed Science and Management	3 Credits
GEOG 524	Hydrological Applications of GIS and Remote Sensing	3 Credits
HYDR 512	Environmental Hydrogeology	3 Credits
REM 440	Wildland Restoration Ecology	3 Credits
REM 452	Western Wildland Landscapes	1 Credit
NRS 573	Panning and Decision Making for Water Management	3 Credits
NRS 510	Applications of Communications Theory in Natural Resource Management	3 Credits

Bioenergy and Bioproducts

AGEC 451	Applied Natural Resource and Environmental Economics	3 Credits
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BE 585	Fundamentals of Bioenergy and Bioproducts	3 Credits
BE 592	Biofuels	3 Credits
BE 594	Thermochemical Technologies for Biomass Conversion	3 Credits
ENVS/FS 536	Principals of Sustainability	3 Credits
RMAT 438	Introduction to Lignocellulosic Biomass Chemistry	1 Credit
RMAT 538	Lignocellulosic Biomass Chemistry	3 Credits
RMAT 536	Biocomposities	3 Credits
FOR 585	Natural Resources Policy Analysis	2 Credits
FS 538	Introduction to Physics Properties of Food	2 Credits
FS 570	Advanced Food Technology	3 Credits
PLSC 407	Field Crop Production	3 Credits
PLSC 546	Plant Breeding	3 Credits

Sustainable Food and Fiber

AGED 406	Exploring International Agriculture	3 Credits
AGED 548	Foundations of Extension Education	2 Credits
ENVS/FS 536	Principals of Sustainability	3 Credits
FS 510	Functional Foods and Health	2 Credits
FS 516	Food Laws	2 Credits
FS 564	Food Toxicology	3 Credits
GEOG 586	Transportation, GIS and Planning	3 Credits
PLSC 407	Field Crop Production	3 Credits
PLSC 546	Plant Breeding	3 Credits
PLSC 551	Vegetable Crops	3 Credits
SOIL 417	Market Garden Practicum	1-16 Credits
SOIL 438	Pesticides in the Environment	3 Credits
SOIL 446	Soil Fertility	3 Credits
SOIL 527	Sustainable Food Systems	3 Credits

Geographic Information Skills, Mapping, and Monitoring

GEOG 524	Hydrologic Applications of GIS and Remote Sensing	3 Credits
REM 510	GIS Applications in Fire Ecology and Management	2 Credits
REM 507	Landscape and Habitat Dynamics	3 Credits
FOR 554	Air Quality, Pollution, and Smoke	3 Credits
ECE 516	Image Sensors and Systems (via EO)	3 Credits
STAT 419	Introduction to SAS/R Programming (via EO)	3 Credits
STAT 555	Statistical Ecology (via EO)	3 Credits

Elective Science Skills (3cr):

[The elective skills course should complement the student's Emphasis Area, but does not have to be from within that Emphasis Area.](#)

Courses to total 30 credits for this degree

Available via distance: 100% of curricular requirements can be completed via distance

Geographical Area: Online

Rationale: This change provides descriptive text for the Professional Science Master (P.S.M.) program. Since the program's inception in 2011, no text has ever been present in any UI General Catalog beyond "Contact the Director of the program in Environmental Science for information regarding this degree." Unsurprisingly, this has led to considerable confusion by students and faculty as to what the requirements are for this degree. On checking with the Registrar, only the original approved NOI and an amendment related to the initiation of the UI Juris Doctorate are on record. Note that the NOI that led to the creation of the P.S.M. program included the bulk of the descriptive information provided in the Curriculum section of this document.

This requests therefore seeks to:

1. Provide a UI General Catalog description that clarifies the degree requirements as it they were listed in the NOI that created the program.
2. Provide updates, based on current course availability, and make official the "unofficial" list of technical skills courses that were contained in the 2013 P.S.M. Program Handbook.
3. Revise the list of focus areas based on UI strategic strengths and availability of courses.
4. Update contact information to make it comparable to other programs listed in the UI General Catalog *[Editor's note: this will appear in the program narrative and does not require UCC approval]*