



Science-based management to effectively live with wildland fire.

What are people saying about the Fire Ecology and Management Master of Natural Resources?

Employer Perspective

“The online Fire Ecology and Management Program with the University of Idaho would greatly benefit anyone looking to advance their career in wildland fire management with a focus on fire science, ecology, policy, planning, and human dimensions. This program will add value for both the individual as well as the entire National Park Service Fire Management Program, in that students get reinforcement on the fundamentals, as well as learn about the latest science, tools and technological advancements.”

- Nate Benson, National Program Lead for NPS Wildland Fire Science & Ecology

Student Perspective

“Unlike many other advanced degree programs, the University of Idaho designed its MNR program with the working professional and non-traditional student in mind. As a permanent employee with the United States Forest Service, I decided to pursue an online Master’s degree in order to meet the 401 series requirements. This is one of the best decisions I have made thus far in my career. The quality of instruction, the variety of courses, and the willingness of the professors to accommodate my hectic schedule during the fire season are reasons I know I made the right decision.”

-D. McDaniel, Fire MNR student and USFS Hotshot Crew Squad Leader, NM

Instructor Perspective

Dr. Leda Kobziar, lead instructor for the master’s program for the University of Idaho, said the goal is to give students the ability to make critical decisions about both the pre- and post-fire management of natural resources, such as reducing fuels, restoring ecosystems, predicting where fires are going to go, and the best ways to tackle the fires. “What attracted me to joining this effort is that the University of Idaho is committed to making online learning as experiential as possible,” Kobziar said. “Students engage the local environment by going out into the woods and measuring fuels and post fire restoration efforts in areas close to them. They’re able to share reports about what’s happening locally and around the rest of the world by connecting with international students in the program.”

-Coeur d’Alene Press, June 20, 2016: “Fighting Flames with Brains”, by Marc Stewart



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**University of Idaho
College of Natural Resources**

MASTER OF NATURAL RESOURCES

Fire Ecology and Management

Program Overview

Thank you for your interest in our NEW Fire Ecology and Management option of the Master of Natural Resources degree program. This course-based, non-thesis program is offered entirely online, making it the first of its kind in North America. Advance your career and learn the science behind fire ecology and management.

The fundamental objective of the MNR graduate program is to integrate various perspectives into a systems view of natural resource issues. Seasoned faculty teach core courses in Advanced Fire Behavior, Fuels Inventory & Management, Communication, GIS Applications, Policy, and more. Develop broad and interdisciplinary expertise by taking courses across four categories: Ecology & Management, Tools & Technology, Human Dimensions and Planning, and Policy & Law. For your final project, you'll work closely with your advisor to develop a paper, plan, tool application, or other relevant product.

Many professionals complete the 30 credits in as little as 3 semesters. With our [14 online fire courses](#), take classes from anywhere with no out-of-state fees at \$509 per credit for the 2016-2017 academic year (online students pay "Idaho Resident" rates). This means that you can earn your Master degree without disrupting your life. And, upon completion, you will have the credentials to apply for professional certification through the [Association for Fire Ecology](#).

Many of our current students have a combination of educational and professional background in natural resources. Prospective students who do not have a background in natural resources or related life science fields (e.g., ecology, botany, biology, etc.) are encouraged to apply and are evaluated on an individual basis if additional pre-requisite courses are required as part of their MNR graduate program.

The jobs prospects for our graduates are very strong. Natural resource management is a field that will continue to expand as we manage limited resources for a growing population. Many of our students already have positions with federal agencies and are advancing their educational credentials. Other students have come to the program from non-natural resources fields and have successfully gained employment with agencies and private firms.

Applicants may be admitted into the MNR program at any time. However, we encourage you to submit by April 1st for admission for the summer or fall, and October 1st for admission for the spring semester.

The College of Natural Resources can also help you obtain or finish a Bachelor degree with the [Environmental Science online program](#). If you are unsure of a Master degree, take up to 12 credits of graduate level courses as a non-degree seeking student to complement training. [Certificate programs](#) in [Restoration Ecology](#) and [Fire Ecology & Management](#) are available if you need specialized training without a Master degree, or in addition to a graduate program. The University of Idaho offers distance learning courses to complete any educational requirements that your career requires, regardless of your current degree status.

Thank you again for your interest. We look forward to answering your questions.

Sincerely,



Dr. Leda Kobziar

Director, Master of Natural Resources

Telephone 208-885-0118 | Lkobziar@uidaho.edu |

<https://www.uidaho.edu/cnr/majors/grad-studies/mnr-fire>

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Curriculum (*alternative courses can also be included to meet category requirements*)

Master of Natural Resources –Fire Ecology and Management

<http://uidaho.smartcatalogiq.com/en/2016-2017/University-of-Idaho-General-Catalog/Departments-of-Instruction/Department-of-Natural-Resources/Natural-Resources-Graduate-Program/Natural-Resources-MNR>

Course	Title	Credits	Semester
<i>Fire Science and Management Core Courses (15 cr required):</i>			
FOR 526 or FOR 426	Advanced Fire Ecology <i>OR</i> Global Fire Ecology	3	Fall
FOR 557	Advanced Fire Behavior	3	Fall
NRS/FOR 451	Fuels Inventory and Management	3	Spring
FOR 587	Wildland Fire Policy	2	Fall
FOR 546	Science Synthesis and Communication	3	Spring
NR 599	Non-thesis Master’s Research- Final Projects	2	Fall and Spring
<i>Ecology Course Group (2-3 cr):</i>			
REM 507	Landscape and Habitat Dynamics	3	Fall
REM 459	Rangeland Ecology	2	Fall
REM 440	Wildland Restoration Ecology	3	Spring
<i>Tools and Technology Course Group (4 cr):</i>			
REM407/ 510	GIS Applications in Fire Ecology & Management	2	Spring
REM 410	Principles of Vegetation Measurement and Assessment	2	Fall
REM 411	Ecological Monitoring & Analysis (Hybrid)	2	Fall
FOR J554	Air Quality and Smoke Management	3	Spring
<i>Policy, Planning and Law Course Group (3 cr):</i>			
FOR 584	Natural Resource Policy Development	3	Spring
NRS 573	Planning and Decision Making for Watershed Management	3	
<i>Human Dimensions Course Group (3 cr):</i>			
NRS 572	Human Dimensions in Restoration Ecology	3	
NR 507	Moral Reasoning	3	
ENVS 536-1	Principles of Sustainability	3	
<i>Additional graduate courses to total ≥30 credits. Final program must have ≥18 cr numbered 500 or above</i>			



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MNR Online Fire Course Descriptions

Fire Ecology (FOR 526, 3 credits)

Core

This course encompasses an advanced exploration of fire effects in forest, woodland, shrubland and grassland ecosystems, as well as key ecological concepts, approaches to studying ecological effects of fires, and the scientific literature. Fire's role in maintaining and restoring fire-adapted ecosystems will be critically reviewed. Fire ecology is a diverse and broad field, including fire history, nutrient, water, and energy cycling, wildlife and plant fire adaptations and tolerances, and disturbance ecology theory. Exams are designed to let you focus on the areas of fire ecology of greatest relevance to you.

Leda Kobziar | lkobziar@uidaho.edu | Fall semester

Wildland Fire Policy (FOR 587, 2 credits)

Core

Relationships between fire science, federal laws and regulations that affect fire management in fire affected ecosystems; the politics of wildland fire; and the effects of wildland fire on wildland-urban interface (WUI) communities. Recommended preparation is a course in natural resource and/or environmental policy or FOR 584.

[Jo Ellen Force](mailto:joellen@uidaho.edu) | joellen@uidaho.edu | Fall semester

Fuels Inventory and Management (NRS/FOR 451, 3 credits)

Core

In-depth examination of fuels inventory and management. You will gain experience with tools, quantitative analysis, and approaches for inventory and management of fuels for wildland fires over large, diverse areas in forests, woodlands, shrubland and grasslands, including fieldwork and discussions about best practices for fuels mitigation.

Leda Kobziar | lkobziar@uidaho.edu | Spring semester |

Science Synthesis and Communication (FOR 546, 3 credits)

Core

Learn together about synthesizing science for application in management. We emphasize fire science. Extensive writing and reading required. In this online course students become informed users of science, learn best practices for synthesizing science, and deepen their understanding of the science-management interface and how to communicate science effectively. We address advocacy. Students complete multiple science briefs and syntheses.

[Penny Morgan](#) | pmorgan@uidaho.edu | Spring semester | [Sample Syllabus](#)

Advanced Fire Behavior (FOR 557, 3 credits)

Core

Basic chemistry and physics involved in fire, including heat transfer processes and the main factors affecting fire behavior. Key fire behavior models useful for professionals. Illustrations with exercises to bridge the gap between basic science and application of science in fire analysis. Examples from different areas of the world, making use of developments in different aspects of fire, from grassfires or spotting of Australian eucalypts to crown fire experiments in the boreal forests of Canada, relying heavily on work from the U.S. and Europe, on modeling fire behavior.

Leda Kobziar | lkobziar@uidaho.edu | Fall semester |

Natural Resources Policy (FOR 584, 3 credits)

Policy

The development of natural resource policy with emphasis on the policy process at the federal level in the U.S.; the role of and interrelationships between staff, committees, agencies and elected officials; the relationship of science and scientists with policy and politicians in the development of natural resource policy, including preparation of testimony related to natural resource science and policy issues; implementation of policy within the natural resource agencies and judicial interpretation of policies.

[Jo Ellen Force](#) | joellen@uidaho.edu | Spring semester

Landscape and Habitat Dynamics (REM 507, 3 credits)

Ecology

Designed for students interested in quantitative methods for predicting landscape change and dynamics. Central topics are the concepts of disturbance ecology, potential vegetation, niche modeling, successional change, climate-change scenarios, human-induced change, and effects of change on species ranges and habitat. In the laboratory section we use geospatial analysis tools to quantify landscape composition under a variety of modeled management and/or climate scenarios. We read and discuss scientific papers and work on development, analysis, and reporting of an independent student selected project.

[Eva Strand](#) | evas@uidaho.edu | Spring semester (alternate years)

Wildland Restoration Ecology (REM 440, 3 credits)

Ecology

Ecological principles and management practices involved in restoring and rehabilitating wildland ecosystems after disturbance or alteration to return damaged ecosystems to a productive and stable state. (Spring only). Prerequisites: FOR 221, or REM 221, or equivalent general ecology course, or by permission of the instructor.

Leda Kobziar | lkobziar@uidaho.edu | Spring semester

Rangeland Ecology (REM 459, 2 credits)

Ecology

Ecology of steppe, woodlands, and other semi-arid and arid ecosystems that occupy nearly 50 percent of the world's land surface. We discuss major ecological principles and processes that influence the function of rangeland ecosystems focusing on succession, disturbance (e.g. herbivory, fire, and climatic variation), and nutrient cycling. Diversity and sustainability of ecosystems are ever-increasing important considerations. We will discuss these topics as they are currently applied to rangelands. Examples from other types of ecosystems, such as wetlands, tide marshes, and temperate forests are included.

[Eva Strand](#) | evas@uidaho.edu | Fall semester | [Sample Syllabus](#)



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Air Quality, Pollution, and Smoke (FOR J554, 3 credits)

Tools

Assessment of the controls and drivers of emission processes and impacts on air quality from agricultural, prescribed, and wildfires. Overview of the combustion and emission process, how these emissions impact the "quality of air", and what models exist to monitor the emission. Other topics to include: recent EPA and other guidelines for smoke management planning, attainment issues, collaborative process for implementing smoke management plans.

[Alistair Smith](mailto:alistair@uidaho.edu) | alistair@uidaho.edu | Spring semester

Principles of Vegetation Measurement and Assessment (REM 410, 2 credits)

Tools

Overview of vegetation measurement techniques for grasslands, shrublands, woodlands and forests. Students will gain a solid understanding of how to assess and monitor vegetation attributes relative to wildlife habitat, livestock forage, fire fuel characteristics, watershed function and many other wildland values. Recommended Preparation: A basic statistics course and understanding of how to use computer spreadsheets such as Excel.

Staff | Fall semester

Ecological Monitoring & Assessment (REM 411, 2 credits)

Tools

Methods for inventory and monitoring of ecosystems; basic field sampling techniques used for measuring vegetation and soil attributes related to ecosystem function and land management; evaluation of plant communities and soil will be interpreted with respect to ecological function, watershed protection, and value as livestock and wildlife habitat. Hybrid, online with a required field trip.

Karen Launchbaugh | klaunchb@uidaho.edu | Fall semester



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GIS Applications in Fire Ecology & Management (REM 407 / REM J510, 2 credits)

Tools

Designed to give you an in-depth understanding of how geographical information systems are applied in fire ecology and management. You will be introduced to GIS applications in fire ecology, research, and management including incident mapping and fire progression mapping. You will apply GIS overlay analysis, remote sensing fire severity assessments, fire atlas analysis, and explore the role of GIS in the Fire Regime Condition Class concept using LANDFIRE spatial data.

Heather Heward/ Crystal Kolden | Spring semester|

Tuition 2016-2017 Academic Year

<https://www.uidaho.edu/current-students/student-accounts/tuition-and-fees-late-fees-refunds/2016-2017>

Online degree programs are offered at Idaho State Tuition Rates.

- \$474.00 per credit
 - Additional Charge for Web-Based Courses: \$35.00 per credit
-

Admission Requirements:

Update as of Feb. 1, 2017: GRE is no longer required

<http://www.uidaho.edu/admissions/graduate/graduate-programs/natural-resources>

Academic Background

To be considered for graduate admissions students must have a bachelor's degree from a college or university accredited by a regional accrediting association. If the degree is from a recognized but not regionally accredited institution, the application will be reviewed by the department and by the College of Graduate Studies.

GPA Requirements

Applicants must have a minimum overall Grade Point Average (GPA) of 3.00 on a 4.00 grade scale equivalent to U.S. bachelor's degree. If you do not meet the minimum 3.00 GPA, your application can be considered for admission if you:

- Have an undergraduate GPA of 3.0 or higher for your last 60 semester credits or 90 quarter credits

-OR-

- Have worked in the program specific profession for 5+ years
 - Have a letter of support from a faculty member in the department
-

Documents Required for Application

INCLUDE YOUR NAME ON ALL MATERIALS SUBMITTED FOR YOUR APPLICATION.

- Resume or Curriculum Vitae (CV)
 - Statement of Career Objective
 - Three (3) letter of recommendation
 - Test Scores: TOEFL **if international from non-English speaking country*
 - Transcripts and academic credentials
 - Non-refundable 2016-2017 Application fee: \$60 domestic applicants; \$70 international applicants
 - **For More Information:** Contact the College of Graduate Studies: 208-885-4001 or graduateadmissions@uidaho.edu
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International Students

For more information on admission requirements for international students, please visit the Natural Resources Admission page.

<http://www.uidaho.edu/admissions/international>

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