



Winter 2008 & Spring 2009 Course Offerings

Initially developed by Virginia Tech and the USDA Forest Service, the [Natural Resources Distance Learning Consortium](#) has expanded to include natural resource programs from 9 accredited universities across the U.S. Consortium members offer:

- Individual courses
- Professional Certificates of Study
- Graduate Professional Degree Programs
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Our mission is to deliver courses to web-based learners, particularly working adults who would be unable to travel to on-campus locations but are nonetheless committed to professional development.

Academic calendars, admissions deadlines and other important dates vary by university, as do admissions requirements, tuition and fees, and even course delivery methods, so for each of the institutions included in this document we've provided a name and contact information of an individual who can answer your questions and provide the guidance necessary to make your entry into distance learning as smooth as possible.

If you have any questions about the NRDLIC or this brochure, please feel free to contact:

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Courses by Topic

Agricultural Management

AGEC750	Agricultural Risk Analysis and Decision-Making (3 credits)
CSS599	Special Topics in Crop Science and Soil Science (1-16 credits*)
FW435	Wildlife in Agricultural Ecosystems (3 credits*)
NRM724	Advanced Grazing Management Techniques (3 credits)

Ecology

CSS572	Human Dimension/Restoration Ecology (3 credits)
ENSC479	Environmental Case Studies (3 credits*)
FW321	Fisheries and Wildlife Resource Ecology (3 credits*)
FW325	Global Crises in Resource Ecology (3 credits)
FW326	Integrated Watershed Management
FW435	Wildlife in Agricultural Ecosystems (3 credits*)
FW470/570	Ecology and History: Landscapes of the Columbia Basin (3 credits*)
FW479/579	Wetlands and Riparian Ecology (3 credits*)
FW481/581	Wildlife Ecology (4 credits*)
NR5724	Conservation Ecology (3 credits)
PSCI5364	Public Ecology: Understanding & Managing Human Ecosystems (3 credits)
RECM595C	Managing Wilderness Ecosystems (4 credits)
RNGE440	Rangeland Ecology and Management (3 credits)
SNR530	Ecological Principles of Sustainable Natural Resources (3 credits*)
SOIL630	Wetland Science (3 credits)

Economics

AREC351	Natural Resource Economics and Policy (3 credits*)
AREC534	Environmental and Resource Economics (3 credits*)
CEDEV509	Population, Land Use, and Municipal Finance (3 credits)
CEDEV575	Methods and Techniques for Community & Economic Development (3 credits)
NR5984	Ecological Economics (3 credits)

Engineering Technology

AGET760	Comprehensive Nutrient Mgmt. Planning & System Design (3 credits)
AGET782	Advanced Precision Technologies for Agri. & NR Mgmt. (3 credits)

Fire Management

F03201	Forest Fire Lab (1 credit)
F03202	Forest Fire (2 credits)
FOR435	Remote Sensing of Active Fire and Post-fire Effects (2 credits)
FW346	Topics in Wildland Fire (3 credits*)

Fisheries

FW321	Fisheries and Wildlife Resource Ecology (3 credits*)
FW323	Management Principles of Pacific Salmon in the Northwest (3 credits)
FW554	Fisheries Biology
FW599	Fisheries Stock Assessment (4 credits*)

Forestry

F03113	Forest Recreation Management (3 credits)
F04323/6323	Forest Resource Management (3 credits)
F04423/6423	Professional Practice (3 credits)
FOR435	Remote Sensing of Active Fire and Post-fire Effects (2 credits)
FOR590	Thesis Research (3 credits)
SNR531	Sustainable Silviculture (1 credit)
SNR532	Planning Agroforestry Projects (2 credits)
SNR533	Alternative Forest Products (1 credit)

GIS

AGET782	Advanced Precision Technologies for Agri. & NR Mgmt. (3 credits)
FW303	Survey of Geographic Information Systems in Natural Resource (3 credits*)
GEOG497G	Geographic Foundations of Geospatial Intelligence (3 credits)
GEOG883	Remote Sensing for the Geospatial Intelligence Professional (3 credits)
GEOG889	Virtual Field Exercise for the Geospatial Intelligence Professional (2 credits)
GIS482	The Nature of Geographic Information (2 credits)
GIS483	Problem-Solving with GIS (3 credits)
GIS484	GIS Database Development (3 credits)
GIS485	GIS Programming and Customization (3 credits)
GIS486	Cartography and Visualization (3 credits)
GIS487	Environmental Applications of GIS (3 credits)
GIS496	Independent Studies-GIS (2 credits)
GIS583	Geospatial System Analysis and Design (3 credits)
GIS584	Geospatial Technology Project Management (3 credits)
GIS586	Geographical Information Analysis (3 credits)
GIS597F	Open Web Mapping (3 credits)
GIS861	Map Projections for Geospatial Professionals (1 credit)
NR532	Principles of GIS (3 credits)
NR533	Application Issues in GIS (3 credits)
NR535	Computer Cartography (2 credits)
PRT462	Introduction to Geographic Information Systems (3credits)

Human Dimensions

AG521	Leadership Development (3 credits*)
ANTH581	Natural Resources and Community Values (3 credits*)
CEDEV452	Rural Organization (3 credits)
CEDEV509	Population, Land Use, and Municipal Finance (3 credits)

CEDEV575	Methods and Techniques for Community & Economic Development (3 credits)
COMM546	Communication I: International Conflict and Disputes (3 credits*)
CSS572	Human Dimension/Restoration Ecology (3 credits)
FOR542	Human Dimensions (3 credits)
FOR574	Advanced Media and Graphics (3 credits)
FOR590	Thesis Research (3 credits)
FW340	Multicultural Perspectives in Natural Resources (3 credits*)
FW350	Endangered Species, Society and Sustainability (3 credits*)
FW470/570	Ecology and History: Landscapes of the Columbia Basin (3 credits*)
HST481	Environmental History of the U.S. (3 credits*)
NR5344	Natural Resources Law and Policy (3 credits)
NR5984	Human Dimensions of Natural Resources (3 credits)
PSCI5364	Public Ecology: Understanding & Managing Human Ecosystems (3 credits)
RECM595A	American Wilderness Philosophy & Policy (4 credits)
SOC481/581	Society of Natural Resources (4 credits*)
SOC580	Environmental Sociology (4 credits*)

Interpretation

FOR564	Cultural and Heritage Interpretation (3 credits)
FOR569	Interpretive Research and Evaluation (3 credits)
FOR570	Field-Based Interpretive Programs (3 credits)
FOR580	Advanced Professional Interpretation (3 credits)
FOR590	Thesis Research (3 credits)

Lands Valuation

NR5674	Public Lands and Realty Principles (3 credits)
NR5984	Public Lands Valuation (3 credits)

Law and Policy

AREC351	Natural Resource Economics and Policy (3 credits*)
AREC532	Environmental Law (4 credits*)
MRM525	Ocean Law (4 credits*)
NR5344	Natural Resources Law and Policy (3 credits)
PS475	Environmental Politics and Policy (4 credits*)
PS577	International Environmental Politics and Policy (4 credits*)
RECM595A	American Wilderness Philosophy & Policy (4 credits)
WRP599	Special Topics: Water Governance and Conflict Management (3 credits*)

Leadership

AG521	Leadership Development (3 credits)
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Marine Resources

MRM506	Project (3 credits*)
MRM525	Ocean Law (4 credits*)

Meteorology

METEO101	Understanding Weather Forecasting (3 credits)
METEO410	Advanced Topics in Weather Forecasting (3 credits)
METEO361	Fundamentals of Mesoscale Weather Forecasting (3 credits)

Natural Resource Management

AG 521	Leadership Development (3 credits)
AGET782	Advanced Precision Technologies for Agri. & NR Mgmt. (3 credits)
FW340	Multicultural Perspectives in Natural Resources (3 credits)
RECM471	Wilderness in the American Context (4 credits)
RECM472	Managing the Wilderness Resource (4 credits)
SNR530	Ecological Principles of Sustainable Natural Resources (3 credits*)
SOC481/581	Society of Natural Resources (4 credits*)
NR5344	Natural Resources Law and Policy (3 credits)

Recreation and Planning

NR5984	Outdoor Recreation Design and Development (3 credits)
PRT200	Leisure Behavior, Health and Wellness (3 credits)
RECM474	Wilderness Management Planning (3 credits)
RECM495D	Management of Recreation Resources (3 credits)
RECM594E	Wilderness Planning Theory, Management Frameworks & Application (3 credits)
REC595	Managing Recreation Resources in Wilderness Settings (3 credits)

Statistics

AGRI741	Statistical Methods in Agriculture and Natural Resources (3 credits)
STAT480	Introduction to Statistical Program Packages (3 credits)

Turfgrass

HORT238	Turf and Ornamental Weed Control (3 credits)
TURF230	Turfgrass Pesticides (1 credit)
TURF235	The Turfgrass (3 credits)
TURF434	Turfgrass Edaphology (3 credits)
TURF435	Turfgrass Nutrition (4 credits)

Water Resources

GEO425/525	Water Resources Management in the U.S. (3 credits*)
WRP510	Internship (3 credits*)
WRP599	Special Topics: Water Governance and Conflict Management (3 credits*)

Wildlife

FW311	Biology of Birds (3 credits*)
FW317	Biology of Mammals (3 credits*)
FW321	Fisheries and Wildlife Resource Ecology (3 credits*)
FW325	Global Crises in Resource Ecology (3 credits*)
FW350	Endangered Species, Society and Sustainability (3 credits*)
FW435	Wildlife in Agricultural Ecosystems (3 credits*)
FW481/581	Wildlife Ecology (4 credits*)

* Courses offered by institution organized into academic quarters—course hours may change when transferred to institutions organized into academic semesters.

MISSISSIPPI STATE UNIVERSITY

Spring 2009

Contact: Jodi B. Roberts, MS, CRC
Program Coordinator, Division of Academic Outreach & Continuing Education
Tel: (662) 325-0238
Email: jroberts@aoce.msstate.edu

Admissions Deadline: December 19, 2008
Registration Begins: November 1, 2008

Classes Begin: January 12, 2009

UNDERGRADUATE

FO3202 Forest Fire (2 credits)

Co-requisites: FO 3201

Course Description: Forest fire control and use. Aspects of fire effects, prevention, detection, suppression and the use of prescribed burning in forest management.

FO 3201 Forest Fire Lab (1 credit)

Co-requisite: FO 3202

Course Description: Field applications and demonstrations of fire control and management techniques that complement theory learned in FO 3202.

FO 3113 Forest Recreation Management (3 credits)

Prerequisites: N/A

Course Description: Studies of the management of forest resources for outdoor recreation.

FO 4323/6323 Forest Resource Management (3 credits)

Prerequisites: FO 4113/6113, FO 4223/6223, FO 4233/6233, FO 4231/6231, FO 4213/6213

Course Description: Application of quantitative decision making techniques to stand-level and forest-wide management problems. Topics include land classification, forest production, optimal rotation analysis, and harvest scheduling.

FO 4423/6423 Professional Practice (3 credits)

Prerequisites: FO 4323/6323 - Forest Resource Management

Course Description: Forest resource data collection and analysis. Development of forest resource alternatives and recommendations for a specific forest property.

NORTH CAROLINA STATE UNIVERSITY

Spring 2009

Contact: Michael J. Kocurek
College of Natural Resources, Department of Wood & Paper Science
Tel: (919) 515-5812
Email: mike_kocurek@ncsu.edu

Admissions Deadline: Check program website
Registration Begins: November 13, 2008

Classes Begin: January 7, 2009

UNDERGRADUATE

PRT 200 Leisure Behavior, Health and Wellness

Prerequisites: N/A

Course Description: Leisure as a lifelong resource for human satisfaction and fulfillment; its potential for physical, mental, social and emotional growth and development of the individual. Leisure opportunity areas presented and evaluated.

PRT 462 Introduction to GIS

Prerequisites: N/A

Course Description: Overview of the operations and functions of computerized spatial display and map analysis processes (Geographic Information Systems), production of effective computer-generated maps and spatial displays, concepts for spatial modeling. Extensive independent learning and computer experiences including on-line virtual laboratory sessions.

GRADUATE

NR 532 Principles of Geographic Information Science (3 credits)

Prerequisites: NR/PRT 531 or PA 541 or ECI 630/496E or SSC 495G

Course Description: Exploration of theoretical underpinnings of Geographic Information Systems(GIS); focus on spatial concepts, analysis and modeling with computing and programming experiences using a GIS software; required major project, computer homework assignments and independent learning with on-line course modules.

NR533 Application Issues in GIS (3 credits)

Prerequisites: NR/PRT 532

Course Description: Operation and management issues related to GIS use in natural resource organizations. Issues in proposing and implementing GIS through case study analyses and experimental project planning including social and legal impacts, cost and benefit assessments, institutional

constraints to implementation, benchmarks, proposal development, education concerns, and planning for technological advances. (Also listed as PRT533)

NR535 Computer Cartography (2 credits)

Prerequisites: PRT 462 or NR/PRT 531

Course Description: Principles of cartographic design and how to apply them to produce high-quality Geographic Information System based maps. Successful students will acquire an understanding of map design and experience in applying this with ArcView GIS. Students produce project maps in both print and web media. Offered only through the Internet. (Also listed as PRT535).

OREGON STATE UNIVERSITY

Spring 2009

Contact: Extended Campus Student Services
Oregon State University
Tel: (800) 667-1465
ecampus@oregonstate.edu

Winter Quarter

Admissions Deadline:
Non-Degree: December 29, 2008
Degree-Seeking: December 1, 2008
Registration Begins: November 9, 2008
Classes Begin: January 5, 2009

Spring Quarter

Admissions Deadline:
Non-Degree: March 23, 2009
Degree Seeking: February 25, 2009
Registration Begins: February 15, 2009
Classes Begin: March 30, 2009

UNDERGRADUATE

AREC 351 Natural Resource Economics and Policy (3 credits)

Winter

Prerequisites: ECON 201 or ECON 201H Other Prereqs: MTH 111.

Course Description: Application of principles of economics to identify the causes, consequences, and ways of dealing with natural resource problems, including problems associated with fisheries, forests, water resources, and land. Conceptual topics and policy applications. Emphasis is on developing students' skill in applying an economic way of thinking about natural resource management. (Bacc Core Course)

ENSC 479 Environmental Case Studies (3 credits)

Winter

Prerequisites: One year of college biology or chemistry, junior standing required.

Course Description: Improves students' ability to ask questions, gather and synthesize information, and communicate ideas on environmental topics. Instruction and information necessary for the course is entirely web based. (Bacc Core Course) (Writing Intensive Course).

FW 303 Survey of GIS in Natural Resource (3 credits)

Winter

Prerequisites: N/A

Course Description: Concepts underlying geographic information systems, global positioning system, and remote sensing; application to management and research, data quality issues, and case studies. Not a lab/skills class.

FW 311 Biology of Birds (3 credits)

Winter

Prerequisites: N/A

Course Description: Survey of the adaptations of birds to a diverse array of habitats. Topics include origins, anatomy, reproductive strategies, migration, flight, behavior, physiology, nutrition, and conservation.

- FW 315 Biology of Fishes (3 credits)** **Winter**
Prerequisites: N/A
- Course Description: A survey of the diversity of biological adaptations of fishes. Topics include physiological and zoogeographical adaptations, reproduction, evolution, cladogenesis, morphology, behavior, and genetics.
- FW 317 Biology of Mammals (3 credits)** **Spring**
Prerequisites: N/A
- Course Description: A survey of the origins, evolution, diversity, and adaptations of mammals to diverse environments. Topics include taxonomy, reproduction, sensory perception, herbivory, population cycles and behavior.
- FW 321 Fisheries and Wildlife Resource Ecology (3 credits)** **Winter**
Prerequisites: N/A
- Course Description: Perspectives in community and ecosystem ecology, including ecosystem classification, and their use in management of fisheries and wildlife resource systems.
- FW 323 Management Principles of Pacific Salmon in the Northwest (3 credits)** **Winter**
Prerequisites: N/A
- Course Description: A 28-session video course exploring the nature of the salmon problem in the Northwest. Experts from diverse disciplines describe principles of salmon biology, habitat ecology and management, socioeconomics of direct and indirect users, and government policies.
- FW 325 Global Crises in Resource Ecology (3 credits)** **Winter**
Prerequisites: N/A
- Course Description: Historical and contemporary implications of the impacts of burgeoning human populations on rates and patterns of global ecological change. Changes in ecosystem processes and crises of species extinction in the context of cultural and political institutions.
- FW 326 Integrated Watershed Management (3 credits)** **Winter**
Prerequisites: N/A
- Course Description: A comprehensive approach to watershed management, one that includes biophysical, socioeconomic, planning and education related topics. Intended for students interested in the sustainable management of natural resources.
- FW 340 Multicultural Perspectives in Natural Resources (3 credits)** **Winter**
Prerequisites: N/A
- Course Description: Explores multicultural influences on development of natural resources in the American West. Effects of diverse social values on changes in the physical landscape and biodiversity.

FW 346 Topics in Wildland Fire (3 credits)

Spring

Prerequisites: N/A

Course Description: An interdisciplinary survey of concepts relating to fire science, ecology, management, and policy. Includes case studies of several representative ecosystems, ranging from west- and eastside forests of the Pacific Northwest to shrub steppe ecosystems of the Intermountain West and chaparral ecosystems of southern California. Distance and campus-based delivery using videos, website, and discussion.

FW 350 Endangered Species, Society and Sustainability (3 credits)

Winter

Prerequisites: N/A

Course Description: Provides a general background to endangered species biology, and the social and economic implications of the legislation enacted to conserve endangered species (Endangered Species Act, CITES Treaty).

FW 435 Wildlife in Agricultural Ecosystems (3 credits)

Winter

Prerequisites: BI 370 and FW 251

Course Description: Examines the relationships between agricultural production and fish and wildlife populations and communities. Explores the impacts of agricultural practices on fish and wildlife. Field trips required; transportation fee charged. OSU Ecampus students are not required to attend field trips. (Writing Intensive Course)

FW 470 Ecology and History: Landscapes of the Columbia Basin (3 credits)

Winter

Prerequisites: N/A

Course Description: Integrates environmental history and landscape ecology of the Columbia River Basin from geologic origins to the present, to create an understanding of change caused by natural processes and human activities.

FW 479 Wetlands and Riparian Ecology (3 credits)

Winter

Prerequisites: N/A

Course Description: Ecology of riparian freshwater and estuarine wetlands of the Pacific Northwest. Effects of land use on ecosystem structure, function, biodiversity, and restoration will be explored.

FW 481 Wildlife Ecology (4 credits)

Spring

Prerequisites: N/A

Course Description: Interrelationships of wildlife, environment and humans. Evaluation of properties and habitats of wildlife populations.

GEO 425 Water Resources Management of the U.S. (3 credits)

Spring

Prerequisites: N/A

Course Description: An investigation of the various approaches to water resources geography within the U.S. Explores the disciplines that address water resources management, their tools, and their limitations. Topics include engineering, law, economics, risk assessment, game theory, conflict resolution, and the fine arts.

HST 481 Environmental History of the United States (3 credits) **Winter**
Prerequisites: Upper-division standing. HST 201, HST 202, HST 203 are recommended. Major
Restrictions: -900 (History)

Course Description: A study of human interaction with the environment and the transformation of the landscape and ecology of North America from the Indian period to the present, with special attention to the progressive alterations induced by the modernizing world of agriculture, industry, urbanism, and their relation to the market system in the United States. Not offered every year. (H) (Bacc Core Course)

PS 475 Environmental Politics and Policy (4 credits) **Winter**
Prerequisites: N/A

Course Description: Environmental and natural resource issues and policies in national and regional context, emphasizing public attitudes, elections, Congress, public policy, and relevant national and state agencies.

SOC 481 Society of Natural Resources (4 credits) **Spring**
Prerequisite: N/A

Course Description: Explores the complex interrelationships between humans and natural resources, emphasizing how management decisions and organizations are enmeshed in social and cultural contexts.

GRADUATE

AG 521 Leadership Development (3 credits) **Winter**
Prerequisites: Graduate standing.

Course Description: Principles of leadership development, leadership analysis and style, record keeping procedures, youth organizations, and activities in leadership for youth. This course may be subject to Enforced Prerequisites that restrict registration into the course.

ANTH 581 Natural Resources and Community Values (3 credits) **Winter**
Prerequisites: N/A

Course Description: Investigates relations between human communities and the values of community members. Resource issues integrate concepts from social science, economics, and ecology.

AREC 532 Environmental Law (4 Credits) **Spring**
Prerequisites: Graduate standing.

Course Description: Legal relationships arising out of rights to air, water, and rights to air, water, and land. The impact of federal and state regulation on pollution control and on the production, use, and disposal of hazardous materials.

AREC 534 Environmental and Resource Economics (3 credits) **Spring**
Prerequisites: N/A

Course Description: Examines economic perspectives on the use and management of natural resources (e.g., fish, wildlife) and environmental quality (e.g., water, air).

- COMM 546 Communication in International Conflict and Dispute (3 credits)** **Winter**
Prerequisites: N/A
- Course Description: Examination of the nature of international conflicts and disputes and the roles culture and communication play in resolving them constructively. Analysis of negotiation, mediation, and international law as approaches to dealing with international political, economic, cultural, and religious disputes. Scrutiny of contemporary world conflicts.
- CSS 599 Special Topics in Crop Science and Soil Science (1-16 credits)** **Winter**
Prerequisites: N/A
- Course Description: Technical knowledge and skills development courses offered in a wide array of course formats. Topics vary from term to term and year to year. May be repeated for credit when topics differ.
- FW 570 Ecology and History: Landscapes of the Columbia Basin (3 credits)** **Winter**
Prerequisites: N/A
- Course Description: Integrates environmental history and landscape ecology of the Columbia River Basin from geologic origins to the present, to create an understanding of change caused by natural processes and human activities.
- FW 579 Wetlands and Riparian Ecology (3 credits)** **Winter**
Prerequisites: N/A
- Course Description: Ecology of riparian freshwater and estuarine wetlands of the Pacific Northwest. Effects of land use on ecosystem structure, function, biodiversity, and restoration will be explored.
- FW 581 Wildlife Ecology (4 credits)** **Spring**
Prerequisites: N/A
- Course Description: Interrelationships of wildlife, environment and humans. Evaluation of properties and habitats of wildlife populations.
- FW 554 Fisheries Biology** **Spring**
Prerequisites: N/A
- Course Description: Principles and methods used in studying the biology of fishes; ecological requirements of freshwater and anadromous fishes; principles and practices in sport fishery management. Taught at Hatfield Marine Science Center.
- FW 599 Fisheries Stock Assessment (4 credits)** **Winter**
Prerequisites: N/A
- Course Description: Various topics in fisheries science and wildlife science. May be repeated for up to 12 credits. CROSSLISTED as ENT 499. Taught at Hatfield Marine Science Center and Corvallis campus.

- FW 620 Ecological Policy (3 credits)** **Winter**
Prerequisites: N/A
- Course Description: Policy issues associated with ecosystem management, risk assessment, biological diversity, ecosystem health, sustainability, invasive species, bioregionalism, globalization and transnational factors, and rights, ethics, and morals.
- GEO 525 Water Resources Management of the U.S. (3 credits)** **Spring**
Prerequisites: N/A
- Course Description: An investigation of the various approaches to water resources geography within the U.S. Explores the disciplines that address water resources management, their tools, and their limitations. Topics include engineering, law, economics, risk assessment, game theory, conflict resolution, and the fine arts.
- MRM 506 Project (3 credits)** **Winter**
Prerequisites: N/A
- Course Description: Special projects as directed by the department.
- MRM 525 Ocean Law (4 credits)** **Winter**
Prerequisites: N/A
- Course Description: Subjects of current interest in marine resource management not covered in depth in other courses. May be repeated on different topics for credit.
- PS 577 International Environmental Politics and Policy (4 credits)** **Winter**
Prerequisites: N/A
- Course Description: Analysis of international environmental theory and politics, the development of international environmental regimes, agreements and treaties, and the process of globalization and the quality of the environment.
- SNR 530 Ecological Principles of Sustainable Natural Resources (3 credits)** **Winter**
Prerequisites: **
- Course Description: Exploration of ecological principles for sustainable natural resource development and use.
- SNR 531 Sustainable Silviculture (1 credit)** **Winter**
Prerequisites: **
- Course Description: Strategies for sustainable silviculture and evaluation of environmental performance of forestry will be examined using classroom lectures, discussions of case studies, and field exercises.
- SNR 532 Planning Agroforestry Projects (2 credits)** **Winter**
Prerequisites: **
- Course Description: Develop basic understanding and appreciation of agroforestry concepts, systems, technologies and practices as used and applied in tropical and temperate zones of the world.

SNR 533 Alternative Forest Products (1 credit)	Winter
Prerequisites: **	
<u>Course Description:</u> Explore the three components of understanding and managing alternative forest products, also known as non-timber forest products (NTFPs), while considering other natural/social resources.	
SNR 535 Sustainable Management of Aquatic and Riparian Resources (1 credit)	Winter
Prerequisites: **	
<u>Course Description:</u> Explores integrated strategies for sustainable management of watersheds, estuaries, coastal zones, and aquatic resources. Special emphasis will be given to the ecosystems of the Pacific Northwest, and to the links between land uses and aquatic environments.	
SOC 580 Environmental Sociology (4 credits)	Winter
Prerequisite: N/A	
<u>Course Description:</u> Explores the evolution of environmental thought, paradigm shifts, and institutional structures associated with environmental concerns, social movements, and social impacts.	
SOC 581 Society of Natural Resources (4 credits)	Spring
Prerequisite: N/A	
<u>Course Description:</u> Explores the complex interrelationships between humans and natural resources, emphasizing how management decisions and organizations are enmeshed in social and cultural contexts.	
WRP 510 Internship (3 credits)	Spring
Prerequisites: N/A	
<u>Course Description:</u> N/A	
WRP 599 Special Topic: Water Governance and Conflict Management (3 credits)	Spring
Prerequisites: N/A	
<u>Course Description:</u> N/A	

**Students must have access to a computer with a broadband connection to view streaming video and other web-based media. Students should have a bachelor's degree in arts, humanities or science, and preferably have at least two years experience working in a natural resources-related field. More information, including international admissions requirements, can be found on the Admission Requirements page.

PENN STATE WORLD CAMPUS

Spring 2009

Contact: Adult Learner Enrollment Services
Tel : (800) 252-3592 (within the U.S.)
Tel : (814) 863-3283 (international)
Email: psuwd@psu.edu

Admissions Deadline: check program website
Registration Begins: October 29, 2008

Classes Begin: January 12, 2009

UNDERGRADUATE

CEDEV 452 Rural Organization (3 credits)

Prerequisites: 6 credits in rural sociology, sociology or psychology

Course Description: Social organization and change in rural communities; use of sociological principles in analysis of rural problems and rural development

GEOG 497G Geographic Foundations of Geospatial Intelligence (3 credits)

Prerequisites: This course is a prerequisite for all other courses in the certificate program and must be taken before enrollment in any of the other courses.

Course Description: Orientation to the geographic foundations of geospatial intelligence and its applications in national security, international relief work, and disaster management.

GIS 482 The Nature of Geographic Information (2 credits)

Prerequisite: Admission to the master of GIS program or certificate program in GIS

Course Description: Orientation to the properties of geographic data and the practice of distance learning.

GIS 483 Problem-Solving with GIS (3 credits)

Prerequisites: GEOG 482

Course Description: How geographic information systems facilitate data analysis and communication to address common geographic problems

GIS 484 GIS Database Development (3 credits)

Prerequisites: GEOG 483

Course Description: Database design, creation, maintenance, and data integration using desktop GIS software.

GIS 485 GIS Programming and Customization (3 credits)

Prerequisites: GEOG 484 or equivalent experience

Course Description: Customizing GIS software to extend its built-in functionality and automate repetitive tasks.

GIS 486 Cartography and Visualization (3 credits)

Prerequisites: GEOG 484

Course Description: Theory and practice of cartographic design emphasizing effective visual thinking and visual communication with geographic information systems.

GIS 487 Environmental Applications of GIS (3 credits)

Prerequisites: GEOG 484

Course Description: Simulated internship experience in which students play the role of GIS analysts in an environmental consultancy.

GIS 496 Independent Studies-GIS (2 credits)

Prerequisites: Understanding Geographic Data (ESRI Virtual Campus)

Course Description: This course is for students who have successfully completed the ESRI Virtual Campus course, Understanding Geographic Data, and who wish to substitute that course for GEOG 482. The introductory course helps students learn skills required to participate effectively in an online class, including creating and publishing online portfolios of class projects on the World Wide Web. Projects enable the students to demonstrate mastery of both online learning skills and basic concepts of geographic information science.

HORT 238 Turf and Ornamental Weed Control- Horticulture (3 credits)

Prerequisites: CHEM 012

Course Description: Students will be introduced to the development of integrated weed management strategies utilizing a variety of cultural and chemical methods.

METEO 101 Understanding Weather Forecasting (3 credits)

Prerequisites: N/A

Course Description: Fundamental principles of synoptic and physical meteorology, satellite and radar imagery, and data analysis in the setting of mid-latitude weather forecasting.

METEO 361 Fundamentals of Mesoscale Weather Forecasting (3 credits)

Prerequisites: METEO 101

Course Description: Applying atmospheric principles to small-scale weather systems, with an emphasis on the conceptual modeling and short-range prediction of severe thunderstorms.

METEO 410 Advanced Topics in Weather Forecasting (3 credits)

Prerequisites: METEO 101, METEO 241, and METEO 361

Course Description: Exploring highly specialized topics and techniques in weather forecasting that span from mesoscale to planetary spatial scales and short-term to long-range time scales.

STAT 480 Introduction to Statistical Program Packages (3 credits)

Prerequisites: 3 credits in statistics

Course Description: Selection and evaluation of statistical packages.

TURF 230 Turfgrass Pesticides (1 credit)

Prerequisites: N/A

Course Description: Course covers chemical toxicity, formulations, environmental fate, labels, MSDs, calibration, IPM, safety, handling, storage, and Pennsylvania certification and regulations.

TURF 235 The Turfgrass-Required (3 credits)

Prerequisites: There are no prerequisites required for the course.

Course Description: Characterization of the primary plant species used for sports, lawn and utility turf; includes turfgrass morphology, environmental adaptation, and cultural requirements.

TURF 434 Turfgrass Edaphology (3 credits)

Prerequisites: SOILS101 , TURF 235

Course Description: Characterization of soil physical and chemical properties for the establishment and maintenance of sports turf; includes root-zone construction.

TURF 435 Turfgrass Nutrition (4 credits)

Prerequisites: SOILS101 , TURF 235

Course Description: Study of turfgrass nutrition and growth; emphasizing constructed and mineral soil fertility, nutrient uptake and function, and fertilizer use efficiency.

GRADUATE

CEDEV 509 Population, Land Use, and Municipal Finance (3 credits)

Prerequisites: N/A

Course Description: Study of interaction of population characteristics, land use, municipal funds, and taxation in a locality, and how they impact the operation and management of government jurisdictions.

CEDEV575 Methods and Techniques for Community and Economic Development (3 credits)

Prerequisites: N/A

Course Description: Understanding and applying methods and hands-on experience with techniques used in community and economic development.

GEOG 883 Remote Sensing for the Geospatial Intelligence Professional (3 credits)

Prerequisites: N/A

Course Description: How remote sensing systems facilitate data analysis and communication to address common geographic problems faced by the geospatial intelligence professional.

GEOG 889 Virtual Field Exercise for the Geospatial Intelligence Professional (2 credits)

Prerequisites: N/A

Course Description: Comprehensive examination in geospatial data analysis and communication to address common geographic problems faced by the geospatial intelligence professional.

GIS 583 Geospatial System Analysis and Design (3 credits)

Prerequisites: GEOG 484

Course Description: Systematic approach to requirements acquisition, specification, design and implementation of geospatial information systems.

GIS 584 Geospatial Technology Project Management (3 credits)

Prerequisites: GEOG 583

Course Description: Principles of effective project management applied to the design and implementation of geospatial information systems

GIS 586 Geographical Information Analysis (3 credits) *10 week course begins April 2009

Prerequisites: GEOG 485 or GEOG 486 or GEOG 487

Course Description: Choosing and applying analytical methods for geospatial data, including point pattern analysis, interpolation, surface analysis, overlay analysis, and spatial autocorrelation.

GIS 597F Open Web Mapping (3 credits)

Prerequisites: N/A

Course Description: Design, development, and implementation of web mapping applications using OGC standards and open source software.

GIS 861 Map Projections for Geospatial Professionals (1 credit)

Prerequisite: GEOG 484

Course Description: Cultivates a working knowledge of map projections that professionals need to process geospatial data effectively for mapping and analysis.

STEPHEN F. AUSTIN STATE UNIVERSITY

Spring 2009

Contact: Mary Ramos
Arthur Temple College of Forestry & Agriculture
Tel: (936) 468-1365
Email: mramos@sfasu.edu

Admissions Deadline: 30 days prior to entering
Registration Begins: November 18, 2008 – January 26, 2009

Classes Begin: January 21, 2009

GRADUATE

FOR 542 Human Dimensions (3 credits)

Prerequisites: N/A

Course Description: This course examines the role of resource managers in making wise decisions concerning natural resources, incorporating not only biological sciences but sound information concerning human thought and action regarding natural systems. This course provides the opportunity to explore and build foundations of understanding current human-natural resource relationships and the development of theoretical understanding of the importance of viewing humans as part of the natural resource decision-making process.

FOR 564 Cultural and Heritage Interpretation (3 credits)

Prerequisites: N/A

Course Description: This course explores issues relative to cultural and heritage interpretation including, but not limited to, historic interpretation, living history, demonstrations, and exhibits. Students will be exposed to theories and applied techniques associated with the preservation, presentation, and interpretation of the sites and stories of culture and history. Spring only.

FOR 569 Interpretive Research and Evaluation (3 credits)

Prerequisites: N/A

Course Description: Overview of interpretive research and evaluation with a focus on theory development, methodological approaches and research design. Spring only.

FOR 570 Field-Based Interpretive Programs (3 credits)

Prerequisites: N/A

Course Description: Overview of field-based interpretive programs and conducted activities including a review of essential elements and an examination of approaches. Spring only.

FOR 574 Advanced Interpretive Media and Graphics (3 credits)

Prerequisites: N/A

Course Description: This course explores relevant aspects of interpretive media development including project definition and planning, selection of appropriate media, interpretive concept development, basic elements of design, and provides the skills and insights necessary for field interpreters to work directly with professional planners and consultants in developing interpretive media. Spring only.

FOR 580 Advanced Professional Interpretation (3 credits)

Prerequisites: N/A

Course Description: This course is the capstone for the MSRI Program. It is used to help the student bring together the skills, techniques, philosophies and knowledge related to interpretation, and associated fields by exploring the relationships between disciplines; the histories associated with people and parks and the natural world; ethics; psychologies; management techniques; and advanced methodologies for information gathering and programming delivery. Spring only.

FOR 590 Thesis Research (3 credits)

Prerequisites: N/A

Course Description: Research for the thesis.

UNIVERSITY OF IDAHO

Spring 2009

Contact: Debi Zenner
College of Natural Resources
Tel: (208) 885-5529
Email: debiz@uidaho.edu

Admissions Deadline: Open
Registration Begins: November 10, 2008

Classes Begin: January 14, 2009

UNDERGRADUATE

FOR 435 Remote Sensing of Active Fire and Post-fire Effects (2 credits)

Prerequisites: FOR 426 (Wildland Fire Management and Ecology)

Course description: Application, potential and limitations of methods for the remote sensing of active fire and post-fire effects, and interpretation of the results. Clarification of definitions of fire descriptors (fire intensity, fire severity, and burn severity) and relative merits of remote sensing tools for address them. How to identify an appropriate mapping approach applicable to different types of imagery (depending on the specific questions to be addressed) and provide decision support for the user community. Critically review and synthesize relevant scientific literature. Field trips. Recommended preparation: This course assumes that you understand fuels and fire behavior, and that you have experience and are adept with Windows-based software for presentation, word processing, database management, and spreadsheets, and that you understand and can use maps and GIS data layers. You must have a working knowledge of fire ecology.

RNGE 440 Rangeland Ecology and Management (3 credits)

Prerequisites: Recommended preparation: general ecology.

Course description: Ecological principles and management practices involved in restoring and rehabilitating wildland ecosystems to a productive and stable state. (Offered alternate years, spring only).

GRADUATE

CSS 572 Human Dimension/Restoration Ecology (3 credits)

Prerequisites: N/A

Course description: An in-depth investigation of multi-dimensional human considerations, including economic, social, and cultural values and the role they play in maintaining, restoring, or sustaining ecosystems. Explores the major premise that projects designed for the restoration and sustainable management of ecosystems and associated resources must be ecologically sound, economically viable, and socially desirable to be successful. Web course. Spring semester only.

UNIVERSITY OF MONTANA

Open Enrollment

Contact: Lisa Gerloff
Executive Coordinator
Rocky Mountain CESU
Tel: (406) 243-5346
E-mail: lisa.gerloff@cfc.umt.edu

Admissions Deadline: N/A
Registration Begins: N/A

Classes Begin: N/A

UNDERGRADUATE

RECM/FOR 471 Wilderness in the American Context (4 credits)

Prerequisites: N/A

Course Description: This course provides a broad perspective of what wilderness is and how the idea developed, and exposes the student to some of the differing values, ethics, and expectations of wilderness held by society. It offers an account of the origins of the wilderness idea, tracing the beginnings of the conservation movement from the Greek philosophers to today. In this course you will examine the early history of wilderness preservation that ultimately led to federal protection in the Wilderness Act and subsequent legislation, including how each agency applies these laws. Legislation since 1964 and how each agency applies these laws are also discussed. RECM 471 is an excellent course for managers and students interested in obtaining a firm academic foundation in wilderness philosophy and ethics.

RECM/FOR 472 Managing the Wilderness Resource (4 credits)

Prerequisites: N/A

Course Description: Ecosystem characteristics and basic principles of wilderness management. Separate chapters discuss management of specific wilderness resources such as fire, wildlife, cultural and historical sites, etc.; managing non-conforming uses such as grazing, mining, and motorized vehicles and equipment and mechanical transport. Discusses the use of primitive means to achieve management objectives, use of the minimum tool, and no-trace camping methods.

RECM/FOR 474 Wilderness Management Planning (3 credits)

Prerequisites: N/A

Course Description: Explores basic planning theory, planning concepts, and effective plan writing. The course provides a thorough treatment of the elements that characterize effective planning on public lands. A substantial part of this discussion is the role of public participation in planning. It also discusses differences in planning among the four federal land management agencies, with a comparison of the philosophy and application of each. Moving from planning to application, the course then gives an example of the Limits of acceptable Change planning framework, currently one of the most widely used planning processes in wilderness. This provides a model for identifying the elements necessary to produce a workable plan, one that is ultimately capable of being implemented. The role of indicators and

standards of quality in wilderness is likewise discussed, as is the importance of executing a monitoring program.

RECM/FOR 495D Management of Recreation Resources (3 credits)

Prerequisites: N/A

Course Description: Explores and discusses how to manage for quality visitor experiences including examples of common problems and solutions. Managing to minimize recreational impacts is covered in detail in a separate chapter. Other chapters include wilderness education and information techniques, as well as law enforcement and emergency response. Managing Recreation Resources deals with the people aspect of wilderness by focusing on managing wilderness for visitor use and enjoyment, and by representing ways to solve problems associated with visitors' expectations and their impacts.

GRADUATE

RECM/FOR 594E Wilderness Planning Theory, Management Frameworks and Application (3 credits)

Prerequisites: N/A

Course Description: Explores basic planning theory, planning concepts, and effective plan writing. The course provides a thorough treatment of the elements that characterize effective planning on public lands. A substantial part of this discussion is the role of public participation in planning. It also discusses differences in planning among the four federal land management agencies, with a comparison of the philosophy and application of each. Moving from planning to application, the course then gives an example of the Limits of acceptable Change planning framework, currently one of the most widely used planning processes in wilderness. This provides a model for identifying the elements necessary to produce a workable plan, one that is ultimately capable of being implemented. The role of indicators and standards of quality in wilderness is likewise discussed, as is the importance of executing a monitoring program.

RECM/FOR 595 Managing Recreation Resources in Wilderness Settings (3 credits)

Prerequisites: N/A

Course Description: Explore and discuss how to manage for quality visitor experiences including examples of common problems and solutions. Managing to minimize recreational impacts is covered in detail in a separate chapter. Other chapters include wilderness education and information techniques, as well as law enforcement and emergency response. Managing Recreation Resources in Wilderness Settings deals with the people aspect of wilderness by focusing on managing wilderness for visitor use and enjoyment, and by representing ways to solve problems associated with visitors' expectations and their impacts.

RECM/FOR 595A American Wilderness Philosophy and Policy (4 credits)

Prerequisites: N/A

Course Description: Lays the groundwork for all other courses in the Program. This course provides a broad perspective of what wilderness is and how the idea developed, and exposes the student to some of the differing values, ethics, and expectations of wilderness held by society. It offers an account of the origins of the wilderness idea, tracing the beginnings of the conservation movement from the Greek philosophers to today. In this course you will examine the early history of wilderness preservation that ultimately led to federal protection in the Wilderness Act and subsequent legislation, including how each

agency applies these laws. Legislation since 1964 and how each agency applies these laws are also discussed. 595A is an excellent course for managers and students interested in obtaining a firm academic foundation in wilderness philosophy and ethics.

RECM/FOR 595C Managing Wilderness Ecosystems (4 credits)

Prerequisites: N/A

Course Description: Ecosystem characteristics and basic principles of wilderness management. Separate chapters discuss management of specific wilderness resources such as fire, wildlife, cultural and historical sites, etc.; managing non-conforming uses such as grazing, mining, and motorized vehicles and equipment and mechanical transport. Discusses the use of primitive means to achieve management objectives, use of the minimum tool, and no-trace camping methods.

UNIVERSITY OF TENNESSEE AT MARTIN

Spring 2009

Contact: Timothy N Burcham
College of Agriculture and Applied Sciences
Department of Agriculture and Natural Resources
Tel: (731) 881-7211
E-mail: tburcham@utm.edu

Admissions Deadline: December 29, 2008
Registration Begins: November 10, 2008

Classes Begin: January 12, 2009

GRADUATE

AGEC 750 Agricultural Risk Analysis and Decision-Making (3 credits)

Prerequisites: N/A

Course Description: Application of current risk management techniques to issues specific to the U.S. agribusiness system. Elements include: production risk; crop insurance; diversification; contract production' integration of systems; market risk; futures and options; minimum price contracts; personal risk; estate planning; organizational concerns; interest rate risk; and policy risk.

AGET 760 Comprehensive Nutrient Management Planning & System Design (3 credits)

Prerequisites: N/A

Course Description: Application of agronomic sciences and engineering technology for developing Comprehensive Nutrient Management Plans (CNMPs) for livestock production. Elements include: environmental law and regulatory policy; watershed planning considerations; animal waste characteristics; role of soils; role of plants; geologic and ground water concerns; facilities location; waste treatment systems design; land application of wastes; and agricultural waste management system design.

AGET 782 Advanced Precision Technologies for Agriculture & Natural Resource Mgmt. (3 credits)

Prerequisites: N/A

Course Description: Principles and application of technologies supporting farming and natural resource data management and planning. Topics include internet information access, positioning systems (GPS), remote sensing, yield monitoring and mapping, variable rate technologies, data sampling, automated guidance, GIS, data layering, and software packages for management.

AGRI 741 Statistical Methods in Agriculture and Natural Resources (3 credits)

Prerequisites: Math 210 (Statistics) or equivalent or instructor's approval

Course Description: Statistical techniques used in design and analysis of experiments in agriculture and natural resources management. T-tests, analysis of variance, mean separation, regression and

correlation, experimental design and analysis, interpretation of research results, analysis and interpretation of survey information.

SOIL 630 Wetland Science (3 credits)

Prerequisites: CHEM 111 or 121, BIOL 120 or 140, or consent of the instructor

Course Description: An introduction to the conservation and management of wetland environments. Emphasis will be placed on the role of wetlands in maintaining water quality and strategies for multiple use management of wetland resources. Students will become familiar with basic and applied concepts in hydrology, soils, and vegetation of both constructed and natural wetlands.

VIRGINIA TECH

Spring 2009

Contact: Kieran Lindsey, PhD
Director, Natural Resources Distance Learning Consortium
College of Natural Resources
Tel: (540) 808-6099
E-mail: klindsey@vt.edu

Admissions Deadline: December 1, 2008
Registration Begins: October 22, 2008

Classes Begin: January 20, 2009

GRADUATE

NR 5194 Environmental Ethics (3 credits)

Prerequisites: N/A

Course Description: Environmental ethics is an in depth analysis of current and past environmental issues in the context of ethical and philosophical considerations starting from individual and group ethics and moving toward more global and societal ethics. The course addresses influences and pressures such as social (in)justice, cultural traditions, politics, science, technology, and religion. In addition, the course explores practical application of professional ethics to the resource decision making process regarding current issues. Teaching methods emphasize but are not limited to class participation, case studies, role playing, technical and popular readings, guest lecturers, and video.

NR 5344 Natural Resources Law and Policy (3 credits)

Prerequisites: N/A

Course Description: Natural resource management has a governing framework of laws and policies. Knowing and understanding these myriad laws - which can be overlapping and even contradictory - and the historical and philosophical underpinnings of these laws - is essential to the natural resource manager and conservation professionals. This course will look at specific laws, with an emphasis on wildlife, fisheries, and forests, and public lands, but more importantly, it will give students the tools needed to find and understand the laws relevant to particular resources. The emphasis will be on U.S. federal law, but will also touch on international, state, and local law. In addition, the course will include an overview of the legislative and regulatory processes that have an enormous impact on the implementation of resource management and conservation programs.

NR 5654 Outdoor Recreation Design and Development (3 credits, CRN, Online)

Prerequisites: N/A

Course Description: This course is another in the Interdisciplinary Recreation Management Series. This course focuses on recreation design and development, as an integral component of land management at the federal, state, local governments, as well as the private level. The full recreation spectrum from wilderness areas to intensively used urban/suburban areas and facilities will be covered in the course. Students will be able to take the course as a natural resource specialist or a design professional or both.

During the course, all students will be considered a member of an interdisciplinary planning and design team at their selected level of government or the private sector.

NR 5674 Public Lands and Realty Principles (3 credits)

Prerequisites: N/A

Course Description: This course introduces the organization, legislative structure, and legal and policy components for managing public real estate and lands. Learners will become acquainted with the legal principles and policies of federal lands, some of the key guidelines for meeting of federal land responsibilities to the American public, through land status records, boundary maintenance, withdrawals processing, and title claims settlement. The course is designed to meet the requirements for career paths in Federal Lands management agencies. Emphasis is placed on learning - legal concepts, critical analysis, problem solving, original thinking and discussion through writing and term projects. Students will work with others in land management agencies and with local, county or state land organizations to complete some assignments.

NR 5724 Conservation Ecology (3 credits)

Prerequisites: N/A

Course description: Human activities are having a cumulative effect on the natural systems upon which life depends. Future land management impacts will likely entail unprecedented change in environmental conditions. More integration of the traditional natural resources fields will be required to develop innovative approaches to sustain resource development. Conservation Ecology provides insights to the many benefits and services that nature offers and explores strategies for management options to sustain ecological integrity and the production of goods and services. Conservation Ecology is an emerging interdisciplinary approach to harmonizing the interactions between people and nature at ecosystem scales. The course is designed to explore the knowledge, theories, and research related to the total environment in which we practice conservation.

NR 5984 Ecological Economics (3 credits)

Prerequisites: N/A

Course Description: This course provides a historical overview of various schools of economic thought, presents the major principles required to fuse ecology with economics, and helps students to analyze economic policies under the lens of ecological reality. Particular attention is paid to economic growth theory and policy as it pertains to the sustainability of human society and management of natural resources. This is a transdisciplinary course, incorporating relevant principles and practices from political science, psychology, and physics in addition to ecology and economics. Students are not required to construct mathematical models.

NR 5984 Human Dimensions of Natural Resources (3 credits)

Prerequisites: N/A

Course Description: This course will provide an introduction to human dimensions of natural resource management—how it is defined, why it is important, and a historical overview, including a discussion of relevant laws and policies. The social science theories that provide a foundation for human dimensions will be examined, along with human values, attitudes, and beliefs related to nature and natural resources. Demographic changes are having a profound effect on both natural resources and those who manage them; we'll explore the stakeholder approach to management, effective communication methods, and conflict resolution and avoidance. Management is a process, not a product. Understanding that process,

the process of policy development, and the role of stakeholders in both is critical. Finally, we'll discuss human dimensions research issues, methods, planning, and how to use study results.

NR 5984 Public Lands Valuation (3 credits)

Prerequisites: N/A

Course Description: This course introduces the history of appraising public lands, the chronology of laws and regulations for public lands appraisal and describes the definitions associated with market valuation of public lands. One module provides the Valuation Theory and Process with a focus on public lands as opposed to privately owned lands. An additional module focuses on the federal and non-federal appraisal standards, including market value rules. The Public Lands Valuation process module focuses on USDA Forest Service and DOI Bureau of Land Management valuation processes, however the valuation process covers at least 5 Agencies. The final module contains case studies, where the learner is challenged to apply what has been learned in the previous modules.

PSCI 5364 Public Ecology: Understanding and Managing Human Ecosystems in a Changing World (3 credits)

Prerequisites: N/A

Course Description: By pushing past the exhausted conceptual divisions from the 1980s, which largely divided the more natural science-based "environmental sciences" from the more social science-focused "environmental studies," public ecology should mix the insights of life science, physical science, social science, applied humanities, and public policy into a cohesive conceptual whole." (T. W. Luke, 2001. Today's environmental challenges (e.g., biodiversity loss, forest fragmentation, climate change, etc.) require us to think in new and innovative ways about the future of life on Earth. Public ecology emerges at the confluence of three major currents shaping the contemporary environmental arena: 1) the need for local communities to coalesce and use local knowledge and local action to address local concerns; 2) the need for dialogue and collaboration across the many disciplinary and cultural boundaries that divide environmentally concerned scientists, policy-makers, and citizens; and 3) the need for a common vision of nature and human society that encourages people to create healthy human ecosystems and sustainable communities at local, regional, and global scales. Public ecology is closely associated with community-based conservation, collaborative natural resource management ("co-management"), civic environmentalism, and related innovations in environmental knowledge and decision making.