

Graduate Area of Specialization in Wildlife and Fisheries Science

Natural Resources Graduate Program
The Ohio State University

1. Statement of justification explaining why this program rises to the level of a legitimate Area of Specialization warranting recognition within the Graduate Program in Natural Resources as a transcript designation.

Fish and wildlife biology is a long-standing and well-recognized sub-discipline within the broader field of natural resources. Degree programs in this area have been producing Master's and doctoral students for nearly a century. The fish and wildlife program at Ohio State University has been a program within the School of Environment and Natural Resources since the School was formed in the late 1960s. Graduate Students in this area receive graduate degrees in natural resources, but nowhere is it shown that they are actually graduates of a fish and wildlife program. A transcript designation of Wildlife and Fisheries Science would correct this inadequacy.

Wildlife and Fisheries Science is also a well-recognized area of specialization among Federal and State agencies and local conservation agencies that are the major employers of wildlife and fisheries science professionals. Every state has a fish and wildlife management agency, and at the federal level majors in wildlife and fisheries science may be employed by a number of agencies, including the U. S. Fish and Wildlife Service, the National Marine Fisheries Service, the Forest Service, The Park Service, the Bureau of Land Management, and the Environmental Protection Agency. Private consulting firms and conservation organizations also provide career opportunities for students with graduate degrees in wildlife and fisheries science. This level of recognition for this discipline is another argument in favor of providing transcript recognition

2. Faculty members

	Rank	Appointment
Jeremy Bruskotter	Assistant Professor	P
Konrad Dabrowski	Professor	P
Robert Gates	Associate Professor	P
Stanley Gehrt	Assistant Professor	P
David Johnson	Professor	P
Amanda Rodewald	Associate Professor	P
Paul Rodewald	Assistant Professor	P

3. Program Administration and Degree Requirements

The Natural Resources Graduate Program (NRGP) is an multidisciplinary program that is proposing to offer Master of Science and PhD degrees in five Areas of Specialization: Ecological Restoration, Ecosystem Science, Environmental Social Sciences, Forest Science, and Wildlife and Fisheries Science. All students in the NRGP will be enrolled in one of these Areas of Specialization and will have an adviser who is a member of the same Area of Specialization faculty. Once a student completes all of his or her degree requirements, including the minimum number of Area of Specialization courses, the adviser and the Chair of the Graduate Studies Committee will certify to the Graduate School that the student should be awarded the appropriate Area of Specialization transcript designation. Area of Specialization courses are listed in part 4 below.

A typical Master's program would include the following course work credits:

Programmatic core courses taken by all NRGP MS students	7 credits
Area of Specialization courses	15 credits
Electives, including statistics and other methods courses	8 credits
Research (999)	15 credits

A typical 90-credit PhD program¹ would include the following course work credits:

Programmatic core courses taken by all NRGP PhD students	13 credits
Area of Specialization courses	20 - 40 credits
Electives	5 - 10 credits
Methods courses	10 credits
Research (999)	17 - 42 credits

4. Wildlife and Fisheries graduate courses taught by faculty and taken by students in this Area.

- ENR 606.02 - Natural Resources Management (Forestry, Fisheries and Wildlife)
- ENR 620 - Principles of Fisheries Ecology and Management
- ENR 623 - Principles of Wildlife Ecology and Management
- ENR 624 - Wildlife Identification and Management
- ENR 625 - Management of Wildlife Habitat
- ENR 626 - Field Techniques in Fisheries Management
- ENR 627 - Ecology and Management of Aquatic Invertebrates
- ENR 628 - Aquaculture
- ENR 629 - Ecology and Management of Wetland Birds
- ENR 662 - Wildlife Ecology Methods
- ENR 812 - Spatial Methods in Natural Resources

¹ Assuming that an earned Master's of 45 credits is transferred in

Master's students must complete at least 15 credits and PhD students must complete at least 20 credits selected from the courses on this list. Advisers and advisory committee members guide the students in the selection of the appropriate courses.

5. Theses and dissertations produced by graduate students advised by faculty in this specialization since 2003

Ph.D. Dissertations (The Natural Resources PhD Program was approved in 1999)

Zhang, Y. 2007. Influence of indispensable amino acid imbalanced diets in adopting strategy of nutrient utilization in fish.

Grubh, Archis. 2006. Effects of anthropogenic disturbances on biota in Gulf Coastal Plain streams.

Rodriguez, G.. 2006. Ph.D. Fate of methyltestosterone in tilapia juveniles and sex reversal. 2006.

Penn, M. 2005. Thesis: Immune response stimulation by phytochemicals in rainbow trout.

Master's Theses

Smith-Castro, Jennifer. 2008. Impacts of Recreational Trails on Vegetation, Avian Parental Behavior, and Nest Predation in Urban Riparian Forests.

Geboy, Richard. 2007. Influence of Food Abundance and Cavity Visibility on Wood Duck Breeding Strategies in Natural Cavities.

Graves, Bret. 2007. Grassland Bird Conservation on Reclaimed Surface Mines: Evaluating the Influence of Vegetation Structure on Distribution, Nest Placement and Nesting Success.

Hennessy, Cecilia. 2007. Mating Strategies and Pack Structure of Coyotes in an Urban Landscape: A Genetic Investigation

Scott, Debra. 2007. The Effect of Habitat Restoration on Bats in a Metropolis.

Santiago, Hector. 2007. Landscape factors influencing macroinvertebrate assemblages in a midwestern headwater stream.

DeGroot, Luke. 2006. Effects of Avian Hematozoa on Behavior and Energetic Condition of Migratory Landbirds.

Downs, Joni. 2006. Population status and habitat utilization of greater sandhill cranes in Ohio.

- Ramey, Paul C.. 2006. Population density and prevalence of rabies virus-neutralizing antibodies in a northern Ohio raccoon population.
- Sundell-Turner, Nancey. 2006. Methods for Prioritizing Land in Conservation Planning.
- Risley, Elizabeth. 2006. Relationships among land use, geomorphology, local habitat, and aquatic macroinvertebrate assemblages in agricultural headwater stream systems.
- Palacios, M.E., 2006. Biology, University of San Marcos, Lima, Peru; Thesis: Nutritional physiology of the South American fish, paku (*Piaractus* sp).
- Boone, Aaron. 2005. Seasonal interactions between migration and winter in a migratory songbird, the Magnolia warbler (*Dendroica magnolia*).
- Leston, Lionel. 2005. Are urban forests ecological traps for understory birds? An examination with northern cardinals (*Cardinalis cardinalis*).
- Wolfe, T., 2005. Fertility and gametes quality assessment in sea lamprey using single cell electrophoresis (Comet assay).
- Beck, Sarah. 2005. Influences of disturbance on macro-invertebrate drift in U.S. coastal plain streams.
- Schrecengost, Marie. 2005. Factors influencing structure of headwater stream communities in the Cuyahoga Valley National Park, Northeast Ohio.
- Froschauer, J., 2004. Assessment of lake sturgeon gametes viability in Great Lakes populations.
- Santago, Melissa J.. 2004. Conservation of red-headed woodpeckers (*Melanerpes erythrocephalus*) on midwestern golf courses: a case study in Ohio.
- Atchison, Kelly A. 2003. Community structure and behavior of wintering birds in riparian forests: relationships with landscape matrix, microclimate, and local habitat.
- Bakermans, Marja H. 2003. Hierarchical habitat selection by the Acadian flycatcher: implications for conservation of riparian forests.
- Kleber, Katharine E. 2004. Assessing biotic integrity in coastal Lake Erie marshes using fish assemblages
- Husat, N. L. 2003. A Vegetation Index of Biotic Integrity for Lake Erie's coastal wetlands.
- Olson, Tara M. 2003. Variation in use of managed wetlands by waterfowl, wading birds, and shorebirds in Ohio.

Steckel, Jason D. 2003. Food availability and waterfowl use on mid-migration habitats in central and northern Ohio.

Vitz, Andrew C. 2003. Habitat use of regenerating clearcuts by mature-forest birds during the post-breeding period.

6. Does this proposed transcript designation involve core subject matter from other disciplines?

No

Graduate Area of Specialization in Ecological Restoration

Natural Resources Graduate Program
The Ohio State University

1. Statement of justification explaining why your program rises to the level of a legitimate Area of Specialization warranting recognition within the Graduate Program in Natural Resources as a transcript designation.

Human domination of ecosystems worldwide has rendered vast areas of land and many water bodies degraded to the point that they cannot support any plant and animal growth. This recognition and active research support by many federal and state agencies for the last four decades, is now the basis for the emergence of an interdisciplinary field — *ecological restoration*, or *restoration ecology*. The new discipline, now recognized widely by scientists and other professionals, has formulated its own concepts, principles, and applications.

During the first decade of the 21st century, ecological restoration has received recognition as well in the accelerated growth and political acceptability of a new movement and economy; the green revolution and green economics. The green economy is a rapidly growing billion-dollar sector that includes ecosystem restoration, renewable energy sources, organic produce and products, green buildings, and alternative fuel vehicles.

The Green Economy is based on sustainable practices that focus on low environmental impact on human and ecological systems. A central component of green economics is “Restoration Economy” where cities and ecosystems are restored, rehabilitated, and revitalized. The restoration economy has the potential to be a multi-trillion dollar economy (Cunningham, 2002).

Many U.S. federal agencies (USEPA, DOE, DOD) have adopted “ecological restoration” as a means to return polluted or otherwise disturbed ecosystems to a close approximation of their condition prior to disturbance, disruption or contamination (USEPA, 2008). The USEPA Ecological Restoration program supports restoration, revitalization, and reuse of disturbed, disrupted and contaminated sites, based on ecological principles, to complement traditional remediation activities that ensure the protection of human health and the environment, in addition to creating habitat (www.epa.gov/ebtpages/ecosecologicalrestoration.html). Ecological land reuse is a cost-effective way to create or incorporate habitats as natural remediation tools that are part of the cleanup process for contaminated sites.

Ecological restoration is a broad term that encompasses a number of interrelated activities, including the reconstruction of antecedent physical conditions, chemical adjustment of the soil and water, and biological manipulation, which includes the reintroduction of native flora and fauna. A wide range of professional expertise is required to realize successful ecological restoration.

Environmental industry executives are deeply worried about where the next generation of qualified environmental professional employees will come from. Environmental companies and government agencies report that "... finding, attracting, recruiting, hiring, training, and retaining qualified people ..." were the biggest issues affecting the environmental industry's future (<http://gristmill.grist.org/story/2008/2/19/155825/434>). *Environmental Business Journal* reported in its 2006 December issue that the environmental industry grew 11.8 percent in 2006 to total revenues of \$24.9 billion, with expected growth at 11.4 percent annually (<http://www.ebiusa.com/>).

The School of Environment and Natural Resources (SENR) and its Natural Resources Graduate Program (NRGP) at The Ohio State University are well-positioned to provide the next generation of Ecological Restoration professionals. The highly diverse expertise of SENR/NRGP Faculty cover all the essential fields of study essential to an advanced degree program with emphasis in Ecological Restoration. This Area of Specialization is further supported within SENR by strong programs in forest science, wildlife and fisheries science soil science, wetland science and the environmental social sciences. This provides a unique opportunity for SENR/NRGP faculty to offer advanced degree specialization in Ecological Restoration. To our knowledge, this program would be a pioneer focused on providing the next generation of Ecological Restoration professionals to power the Green and Restoration Economy.

The Ecological Restoration Area of Specialization is related to the Ecosystem Science Area of Specialization also being proposed for transcript designation status. Ecosystem Science focuses mostly on basic theory and science concerning how ecosystems function. Ecosystem Restoration is built on ecosystem theory but is focused ultimately on applied questions associated with creating and restoring viable and productive ecological systems.

2. Faculty members

	Rank	Appointment
Nicholas Basta	Professor	P
Jerry Bigham	Professor	P
Virginie Bouchard	Associate Professor	P
Peter Curtis	Professor	P
Konrad Dabrowski	Professor	P
Craig Davis	Professor	P
Dawn Ferris	Assistant Professor	P
Charles Goebel	Associate Professor	P
David Hix	Professor	P
Willam Mitsch	Professor	P
Brian Slater	Associate Professor	P
Mohan Wali	Professor	P

3. Program Administration and Degree Requirements

The Natural Resources Graduate Program (NRGP) is an multidisciplinary program that is proposing to offer Master of Science and PhD degrees in five Areas of Specialization: Ecological Restoration, Ecosystem Science, Environmental Social Sciences, Forest Science, and Wildlife and Fisheries Science. All students in the NRGP will be enrolled in one of these Areas of Specialization and will have an adviser who is a member of the same Area of Specialization faculty. Once a student completes all of his or her degree requirements, including the minimum number of Area of Specialization courses, the adviser and the Chair of the Graduate Studies Committee will certify to the Graduate School that the student should be awarded the appropriate Area of Specialization transcript designation. Area of Specialization courses are listed in part 4 below.

A typical Master's program would include the following course work credits:

Programmatic core courses taken by all NRGP MS students	7 credits
Area of Specialization courses	15 credits
Electives, including statistics and other methods courses	8 credits
Research (999)	15 credits

A typical 90-credit PhD program¹ would include the following course work credits:

Programmatic core courses taken by all NRGP PhD students	13 credits
Area of Specialization courses	20 - 40 credits
Electives	5 - 10 credits
Methods courses	10 credits
Research (999)	17 - 42 credits

4. Ecological Restoration courses

- ENR 618 Ecological Engineering, 4 credits
- ENR 631 Arboriculture, 5 credits
- ENR 660 Soil Chemical process and environmental quality, 5 credits
- EEOB 671 Plant Population Ecology, 5 credits
- ENR 675 Environmental Fate and Impact of Pollutants in Soil and Water, 4 credits
- ENR 710 Methods in Ecosystem Science, 5 credits
- EEOB 720 Community and Ecosystem Ecology, 5 credits
- ENR 725 Wetland Ecology and Management, 5 credits
- ENR 726 Wetland and River Restoration, 3 credits
- ENR 731 Principles and applications of forest ecosystem restoration, 3 credits
- ENR 756 Rehabilitation/Restoration of Ecosystems, 3 credits
- ENR 770 Watershed Ecology and Restoration, 4 credits
- ENR 760 Ecological Modelling, 5 credits
- ENR 812 Spatial Modelling in Natural Resources

¹ Assuming that an earned Master's of 45 credits is transferred in

ENR 822 Quantitative methods for natural resources 4 credits
ENR 835 Ecosystem Management Policy, 5 credits

Master's students must complete at least 15 credits and PhD students must complete at least 20 credits selected from the courses on this list. Advisers and advisory committee members guide the students in the selection of the appropriate courses.

5. Theses and dissertations produced by graduate students advised by faculty in this specialization since 2003. To demonstrate the capability of our faculty to advise graduate students in this Area of Specialization, we are including Theses and Dissertations completed under the supervision of our faculty but carried out in other graduate programs at OSU (*) or at other universities before the adviser joined our faculty ().**

Ph.D. Dissertations (The Natural Resources PhD Program was approved in 1999)

Allen, Bruce P. 2007. Long-term effects of wind disturbance on the old-growth forests and lianas of the Congaree National Park, Columbia, South Carolina.

* Altor, Anne. 2007. Methane and carbon dioxide fluxes in created riparian wetlands in the Midwestern USA: Effects of hydrologic pulses, emergent vegetation and hydric soils.

* Fink, Daniel. 2007. Effects of a pulsing hydroperiod on a created riparian river diversion wetland.

Heimberger, Paul E. 2007. Composition, structure, and successional dynamics of Johnson Woods, an old-growth forest fragment in transition.

Herrman, Kyle. 2007. Mechanisms controlling nitrogen removal in agricultural headwater streams.

* Hernandez, Maria. 2006. The effect of hydrologic pulses on nitrogen biogeochemistry in created riparian wetlands in Midwestern USA.

Anderson, Christopher. 2005. The influence of hydrology and time on productivity and soil development of created and restored wetlands.

*Beak, Douglas G. 2005. Lead and arsenic and lead speciation and bioaccessibility following sorption on oxide mineral surfaces.

Morris, Arthur E.L. 2005. Large-scale geomorphic controls on large wood jams and associated fish communities in old-growth and second-growth northern forests.

* Gilbert, Janice. 2004. Examining the link between macrophyte diversity, bacterial diversity, and denitrification function in wetlands.

* Gagliano, Wendy. 2004. Biogeochemical characterizations of a wetland constructed for acid mine drainage remediation.

** Si, Jitao. 2004. Assessing the effect of soil properties on bioavailability and phytotoxicity of heavy metals.

** Armstrong, F.P. 2003. Extractability and bioavailability of arsenic in soils and the effect of iron remediation efforts.

** Dayton, E.A. 2003. Relative contribution of soil properties to modifying the phytotoxicity and bioaccumulation of cadmium, lead and zinc to lettuce.

Fineran, Stacey A. 2003. Assessing Spatial and Temporal Vegetative Dynamics at Mentor Marsh, 1796 to 2000 A.D.

** Schroder, J.L. 2003. Bioavailability and toxicity of heavy metals in contaminated soils to human and ecological receptors.

M.S. Theses

Anemaet, Evelyn. 2008. Belowground production in created and natural wetlands: nutrient limitation and functional development.

Campbell, Amy L.. 2007. Sexual Reproduction in the Non-native Common Reed, *Phragmites australis* (Cav.) Trin. Ex Steudel: Seed Viability, Dormancy and Germination.

Korfel, Chelsea. 2007. Hydrology, physiochemistry, and amphibians in natural and created vernal pool wetlands.

* Rokosch, Abby. 2007. The use of soil parameters as indicators of quality in forested-depressional wetlands.

Gamble, Debra. 2006. Tree growth and hydrologic patterns in forested mitigation wetlands.

* Foster, Jill. 2006. The effect of dosing vehicle and arsenic speciation on arsenic bioaccessibility in smelter contaminated soil.

Hossler, Kathleen. 2005. Accumulation of carbon created wetland soils and the potential to mitigate loss of natural wetland carbon-mediated functions.

Kettlewell, Chad. 2005. An assessment of wetland impacts and compensatory mitigation in the Cuyahoga River Watershed, Ohio, USA.

* Nahlik, Amanda. 2005. The effects of river pulsing on sedimentation in two created riparian wetlands.

Rothman, Erin. 2005. *Phragmites australis* in a freshwater coastal wetland: implications for carbon dynamics.

Swab, Rebecca. 2005. Effectiveness of *Lonicera maackii* removal from a bottomland hardwood forest in central Ohio.

* Tuttle, Cassandra. 2005. The effects of hydrologic pulsing on aquatic metabolism in created riparian wetlands.

Wolfe, T. 2005. Fertility and gametes quality assessment in sea lamprey using single cell electrophoresis (Comet assay).

Froschauer, J. 2004. Assessment of lake sturgeon gametes viability in Great Lakes populations.

Kudlu, Priyadarshini, 2004. Vegetation and plant diversity of a freshwater marsh on the coast of Lake Erie under high and low water conditions.

* Lohan, Eric. 2004. A methodology to ecologically engineer watersheds for nitrogen nonpoint source pollution control.

Morgan, Jennifer A. 2004. Impact of clipping *Phragmites australis* and flooding at two different depths on wetland vegetation structure in a Lake Erie marsh.

* Powell, Kelly. 2004. Denitrification in agricultural headwater ditches.

** Sablak, Gregg. 2004. Link between macroinvertebrate community, riparian vegetation and channel geomorphology in agricultural drainage ditches.

** Smialek, Jamie. 2003. Effect of plant species on gas production and emission in a newly constructed wetland.

6. Does this proposed transcript designation involves core subject matter from other disciplines?

Yes. We do place our students in courses taught by ecologists in the department of EEOB and will continue to do so. A letter of support has been provided by the Chair of EEOB.

References for Statement of Justification

Cunningham, S. 2002. The Restoration Economy. Berrett-Koehler Publications, Inc., San Francisco, CA. 340 pp.

Doyle, K. 2008. Remake a living: Hire definition. Grist Environmental News and Commentary. Seattle, WA. (Available on-line at <http://gristmill.grist.org/story/2008/2/19/155825/434>; verified 6 Apr. 2008)

Environmental Business Journal. 2006. ZweigWhite Information Services, Natick, MA. (Available on-line at <http://www.ebiusa.com/> ; verified 6 Apr. 2008).

U.S. Environmental Protection Agency. 2008. Ecotools: Tools for Ecological Land Use. (Available on-line at <http://www.clu-in.org/ecotools/>

Graduate Area of Specialization in Environmental Social Sciences

Natural Resources Graduate Program
The Ohio State University

1. Statement of justification explaining why this program rises to the level of a legitimate Area of Specialization warranting recognition within the Natural Resources Graduate Program as a transcript designation.

Environmental and natural resource problems are almost all caused by human actions or have important human components. The earth is coming to be seen as a “human ecosystem” (Machlis, Force & Burch, 1997) with humans as the dominant species that impacts and affects the entire globe. Consequently, all environmental and natural resource management programs and systems should have a means for considering the human dimensions of their plans and on-going activities. No single social science discipline or methodology can provide all of the theories, approaches, insights and predictions needed to understand how humans interact with and affect the environment and natural resources. As an applied field of study, the environmental social sciences draw on theories and methodologies from all of the social science disciplines, e.g., anthropology, political science, psychology, social psychology, sociology, plus allied professional fields, e.g., law, public administration. The ESS Area of Specialization provides graduate students with some latitude to locate their program of study and research within the social sciences or an allied professional field with strong advising by their adviser and advisory committees.

The past decade has seen a rapid and expansive increase in undergraduate and graduate programs and degrees in the ESSs within colleges, schools and departments of natural resources and environmental sciences. In addition, federal, state, and to a lesser extent local, agencies have sought students with Master’s degrees to manage human dimensions programs for which they are responsible. These agencies are also hiring young PdDs to do research on publics, clients, and stakeholders as direct input to planning, policy analysis and development, and resource management activities. Consequently there is a growing demand for individuals trained in the ESSs at the masters and doctoral levels in academia and government.

The ESS faculty in the NRGP has broad representation in the social sciences including communication science, cognitive psychology, political science, sociology, social psychology, and the allied profession of law. ESS faculty use a variety of methodologies, including experimental and quasi-experimental designs, quantitative survey research, and qualitative research to address practical problems in environment and natural resources and to test and develop theories from relevant social science disciplines as applied to environment and natural resource issues. Graduate students in the ESS Area of Specialization do their research within the faculty advisor’s social science discipline or allied professional field and methodological approach. In this way ESS doctoral students will be trained and mentored by ESS faculty who have recognized expertise in an ESS discipline and research approach.

2. Faculty members

	Rank	Appointment
Jeremy Bruskotter	Assistant Professor	P
Earl Epstein	Professor	P
John Heywood	Associate Professor	P
Joseph Heimlich	Associate Professor	P
Tomas Koontz	Associate Professor	P
Robyn Wilson	Assistant Professor	P
Eric Toman¹	Assistant Professor	

¹ Appointment starting Au 08

3. Program Administration and Degree Requirements

The Natural Resources Graduate Program (NRGP) is an multidisciplinary program that is proposing to offer Master of Science and PhD degrees in five Areas of Specialization: Ecological Restoration, Ecosystem Science, Environmental Social Sciences, Forest Science, and Wildlife and Fisheries Science. All students in the NRGP will be enrolled in one of these Areas of Specialization and will have an adviser who is a member of the same Area of Specialization faculty. Once a student completes all of his or her degree requirements, including the minimum number of Area of Specialization courses, the adviser and the Chair of the Graduate Studies Committee will certify to the Graduate School that the student should be awarded the appropriate Area of Specialization transcript designation. Area of Specialization courses are listed in part 4 below.

A typical Master’s program would include the following course work credits:

Programmatic core courses taken by all NRGP MS students	7 credits
Area of Specialization courses	15 credits
Electives, including statistics and other methods courses	8 credits
Research (999)	15 credits

A typical 90-credit PhD program¹ would include the following course work credits:

Programmatic core courses taken by all NRGP PhD students	13 credits
Area of Specialization courses	20 - 40 credits
Electives	5 - 10 credits
Methods courses	10 credits
Research (999)	17 - 42 credits

¹ Assuming that an earned Master’s of 45 credits is transferred in

4. Environmental Social Science courses

ENR 601 Evaluation of Environmental Impact
ENR 602 International Evaluation of Environmental Impact
ENR 615 Environmental Risk Communication
ENR 640 Natural Resources Program Planning I
ENR 641 Natural Resources Program Planning II
ENR 642 Natural Resources Administration
ENR 643 Outdoor Recreation and Tourism by the Private Sector
ENR 647 Wilderness Policy and Management
ENR 651 Water Resources Institutions and Policy
ENR 653 Solid Waste Management
ENR 700 Natural Resources Policy Analysis
ENR 736 Public Forest and Lands Policy
ENR 750 Resolving Social Conflict
ENR 752 Environmental Science and Law
ENR 835 Ecosystem Management Policy
ENR 841 Outdoor Recreation Behavior
ENR 851 Human Dimensions Theory Building in Natural Resources
ENR 861 Property, Land Information and Environment

Master's students must complete at least 15 credits and PhD students must complete at least 20 credits selected from the courses on this list. Advisers and advisory committee members guide the students in the selection of the appropriate courses.

5. Theses and dissertations produced by graduate students advised by faculty in this specialization since 2003

PhD Dissertations

Jianjun Hao, 2007, *Residents' knowledge, perceptions, attitudes, and willingness to pay for non-point source pollution control: A study of Nansihu Lake watershed, China*

Scott Hardy, 2007, *Not so eerie anymore? The promise of collaborative watershed management in the Lake Erie Basin*

E. Elaine Horr, 2007, *Identifying overlooked program outcomes to increase the valuation of conservation education programs*

R. Preethi Mony, 2007, *An exploratory study of docents as a channel for institutional messages at free-choice conservation education settings*

Tim Lawrence, 2005, *Devolution and Collaboration in the Development of Environmental Regulations*

Mark Miller, 2005, *An exploration of children's gardens: reported benefits, recommended elements, and preferred visitor autonomy*

Yi-Hsuan Hsu, 2003, *An Integrated Model for Investigation of Social-Psychological Influences on College Students' Attitudinal Tendencies Toward Appropriate Environmental Behavior: A Study in Taiwan*

Ronald B. Meyers, 2003, *A heuristic for environmental values and ethics, and a psychometric instrument to measure adult environmental ethics and willingness to protect the environment*

MS Theses

Craig McDonald, 2008, *Learning about systems: Applying general systems theory to assist learners in Earth Systems Education*

Sarah Beal, 2007 *Citizen participation in brownfield redevelopment: A comparative case study*

Karen Cook-Hoggarth, 2007, *Analysis of current secondary science textbooks for coverage of environmental issues*

Vicki Garrett, 2007 *Adoption of passive solar homes in Franklin County, Ohio: A study from both supply- and demand- sides.*

Jennifer Bodine, 2005, *Comparing an Organizational Shooting Star to a Bureaucratic Superstar: Ecosystem Management Implementation in the Bureau of Land Management and the U.S. Forest Service.*

Brandi Bowman, 2005, *The Who, What, Why and How of Collaborative Watershed Groups in Ohio: A Look at Levels of Stakeholder Participation*

Joseph Circle, 2005, *Affect importance and behavioral norm power for prescribed fire management actions in the Wayne National Forest*

Lyndsey Manzo, 2005, *Evaluating the use of a structured decision-making framework as a method of teaching about environmental issues*

Sara Schott Nikolic, 2005, *Impacts of State Intervention on Community-Based Watershed Management: Ohio's Watershed Coordinator Grant Program*

Rachel Fleishman, 2004, *Watershed Groups in Ohio: The Effects of Organizational Characteristics on Political Behavior, Accomplishments, and Perceived Effectiveness*

Brandi Hall, 2004, *To Participate or Not to Participate: A Look at Landowner Participation in Voluntary Conservation Programs from Different Perspectives*

Jennifer E. Dudley, 2003, *The effect of participation in place-based environmental education programs on student affect toward science; A case study of F.T. Stone Laboratory's middle school program*

Joshua Stephens, 2003, *Public and private efforts aimed at establishing nature preserves : evaluating interactions between state nature preserve agencies and the nature conservancy*

Louis Rivers, III, 2003, *A descriptive correlational study of the usage of outdoor public lands held by different public land-management agencies by the cohesive cultural subsets of an urban area, and the ability of these groups*

- 6. Does this proposed transcript designation involve core subject matter from other disciplines?** Our students do take some courses in other social science departments, but the core subject matter is taught entirely within this program.

Graduate Area of Specialization in Forest Science

Natural Resources Graduate Program
The Ohio State University

1. Statement of justification explaining why your program rises to the level of a legitimate Area of Specialization warranting recognition within the Graduate Program in Natural Resources as a transcript designation.

Forest science is a well-recognized and long-standing academic discipline dating to the first forestry schools that were established in the U.S. a century ago. As the land grant institution for the state of Ohio, The Ohio State University historically has served as the lead institution for forestry education and research in the state. In terms of graduate education, the forest science graduate area of specialization is the only graduate program in forest science in the state of Ohio. The first M.S. thesis focused on forest science at The Ohio State University was published in 1949, and since that time, 56 dissertations and theses in forestry and forest science. Students receiving degrees in forestry or forest science at universities that have forestry schools get degrees in forestry. Because our forest science program is part of the School of Environment and Natural Resources, our students receive degrees in natural resources. A transcript designation in forest science would officially specify their area of expertise within the broader field of natural resources.

2. Faculty members

	Rank	Appointment
Dawn Ferris	Assistant Professor	P
Charles Goebel	Associate Professor	P
Randy Heiligmann	Professor	M
David Hix	Associate Professor	P
Davis Sydnor	Professor	P
Roger Williams	Associate Professor	M
Mohan Wali	Professor	P

3. Program Administration and Degree Requirements

The Natural Resources Graduate Program (NRGP) is an multidisciplinary program that is proposing to offer Master of Science and PhD degrees in five Areas of Specialization: Ecological Restoration, Ecosystem Science, Environmental Social Sciences, Forest Science, and Wildlife and Fisheries Science. All students in the NRGP will be enrolled in one of these Areas of Specialization and will have an adviser who is a member of the same Area of Specialization faculty. Once a student completes all of his or her degree requirements, including the minimum number of Area of Specialization courses, the adviser and the Chair of the Graduate Studies Committee will certify to the Graduate School that the student should be awarded the appropriate Area of Specialization transcript designation. Area of Specialization courses are listed in part 4 below.

A typical Master's program would include the following course work credits:

Programmatic core courses taken by all NRGP MS students	7 credits
Area of Specialization courses	15 credits
Electives, including statistics and other methods courses	8 credits
Research (999)	15 credits

A typical 90-credit PhD program¹ would include the following course work credits:

Programmatic core courses taken by all NRGP PhD students	13 credits
Area of Specialization courses	20 - 40 credits
Electives	5 - 10 credits
Methods courses	10 credits
Research (999)	17 - 42 credits

4. Forest Science courses

ENR 631 Arboriculture, 5 credits

ENR 635 Forest Management, 4 credits

ENR 656 Ecosystems of the World: Temperate, Boreal and High Latitude Ecosystems, 3 credits

ENR 731 Principles and Applications of Forest Ecosystem Restoration, 3 credits

ENR 733 Successional Dynamics of Forests, 5 credits

ENR 734 Forest Ecosystem Management, 4 credits

ENR 756 Rehabilitation/Restoration of Ecosystems, 3 credits

ENR 770 - Watershed Ecology and Restoration, 4 credits

ENR 822 - Quantitative Methods for Natural Resources, 5 credits

Master's students must complete at least 15 credits and PhD students must complete at least 20 credits selected from the courses on this list. Advisers and advisory committee members guide the students in the selection of the appropriate courses.

5. Theses and dissertations produced by graduate students advised by faculty in this specialization since 2003

Ph.D. Dissertations (The Natural Resources PhD Program was approved in 1999)

Allen, Bruce P. 2007. Long-term effects of wind disturbance on the old-growth forests and lianas of the Congaree National Park, Columbia, South Carolina.

Graham, Gary R. 2005. Analysis of production practices and demographic characteristics of the Ohio maple syrup industry

Morris, Arthur E.L. 2005. Large-scale geomorphic controls on large wood jams and associated fish communities in old-growth and second-growth northern forests

¹ Assuming that an earned Master's of 45 credits is transferred in

M.S. Theses

*Heimberger, Paul E. 2007. Composition, structure, and successional dynamics of Johnson Woods, an old-growth forest fragment in transition

Holmes, Kathryn L. 2004. Landscape factors influencing water quality and the development of reference conditions for riparian restoration in the headwaters of a northeast Ohio watershed

Wyse, Thomas C. 2004. Biological legacies of historical fires, logging and fire suppression on the structure and composition of coastal pine forests at Sleeping Bear Dunes National Lakeshore

Nicodemus, Michael A. 2003. Quantifying aboveground carbon storage in managed forest ecosystems in Ohio

6. Does this proposed transcript designation involves core subject matter from other disciplines?

No

* Indicates *Environmental Science Graduate Program (ESGP) student advised by a member of the Area of Specialization*

Cormier, J. Briggs

From: Elliot Slotnick [slotnick.1@gradsch.ohio-state.edu]

Sent: Thursday, June 19, 2008 11:03 AM

To: Cormier, J. Briggs

Graduate Area of Specialization in Ecosystem Science

Natural Resources Graduate Program
The Ohio State University

1. Statement of justification explaining why your program rises to the level of a legitimate Area of Specialization warranting recognition within the Graduate Program in Natural Resources as a transcript designation.

The faculty in the School of Environment and Natural Resources includes twelve ecologists, seven of whom have strong research programs looking at fundamental processes that occur in ecological systems. In all, the Graduate Program in Natural Resources has eight ecosystem ecologists, including Dr. Peter Curtis, current Chair of the EEOB department. Graduate students supervised by faculty members in this program are trained to carry out basic and applied research on communities and ecosystems and are, therefore, ecologists by any definition. This should be recognized on their transcripts.

Ecosystem science is the study of biotic and abiotic components and their interaction within an ecosystem. Ecosystem science is firmly grounded in ecological theory, and theory is a significant component of our research efforts. But, this program also has an applied focus that examines how ecosystem functions produce and maintain products and services of importance to human societies, e.g. water purification in wetlands. In this context, ecosystem science provides a powerful framework for identifying ecological mechanisms underlying environmental problems such as: problems of land degradation, water pollution, and loss of species and habitat.

This specialization is related to, but distinct from, the specialization in Ecological Restoration in our program in that the latter uses knowledge from ecosystem science to restore and create ecosystems.

2. Faculty members

	Rank	Appointment
Virginie Bouchard	Associate Professor	P
Peter Curtis	Professor	P
Konrad Dabrowski	Professor	P
Craig Davis	Professor	P
Dawn Ferris	Assistant Professor	P
David Hix	Professor	P
William Mitsch	Professor	P
Mohan Wali	Professor	P

3. Program Administration and Degree Requirements

The Natural Resources Graduate Program (NRGP) is an multidisciplinary program that is proposing to offer Master of Science and PhD degrees in five Areas of Specialization: Ecological Restoration, Ecosystem Science, Environmental Social Sciences, Forest Science, and Wildlife and Fisheries Science. All students in the NRGP will be enrolled in one of these Areas of Specialization and will have an adviser who is a member of the same Area of Specialization faculty. Once a student completes all of his or her degree requirements, including the minimum number of Area of Specialization courses, the adviser and the Chair of the Graduate Studies Committee will certify to the Graduate School that the student should be awarded the appropriate Area of Specialization transcript designation. Area of Specialization courses are listed in part 4 below.

A typical Master's program would include the following course work credits:

Programmatic core courses taken by all NRGP MS students	7 credits
Area of Specialization courses	15 credits
Electives, including statistics and other methods courses	8 credits
Research (999)	15 credits

[1]

A typical 90-credit PhD program would include the following course work credits:

Programmatic core courses taken by all NRGP PhD students	13 credits
Area of Specialization courses	20 - 40 credits
Electives	5 - 10 credits
Methods courses	10 credits
Research (999)	17 - 42 credits

4. Ecosystem Science courses

ENR 626 Methods in Aquatic Ecology, 5 credits
 ENR 630 Soils of Forest Ecosystems, 3 credits
 ENR 645 Soils of the Tropics, 3 credits
 EEOB 655 Limnology, 5 credits
 ENR 656 Ecosystems of the World
 ENR 665 Biology of Soil Ecosystems
 EEOB 671 Plant Population Ecology, 5 credits
 EEOB 674 Plant physiological ecology, 5 credits
 ENR 710 Methods in Ecosystem Science, 5 credits
 EEOB 720 Community and ecosystem ecology, 5 credits
 ENR 725 Wetland Ecology and Management, 5 credits
 ENR 733 Successional Dynamics in Forests, 5 credits
 ENR 734 Forest Ecosystem Management, 4 credits
 ENR 756 Restoration/Rehabilitation of Ecosystems, 3 credits
 ENR 770 Watershed Ecology and Restoration, 4 credits
 ENR 812 Spatial Methods in Natural Resources, 3 credits

Master's students must complete at least 15 credits and PhD students must complete at least 20 credits selected from the courses on this list. Advisers and advisory committee members guide the students in the selection of the appropriate courses.

5. Theses and dissertations produced by graduate students advised by faculty in this specialization since 21 of 44

2003. To demonstrate the capability of our faculty to advise graduate students in this Area of Specialization, we are including Theses and Dissertations completed under the supervision of our faculty but carried out in other graduate programs such as ESGP at OSU (*) or at other universities before the adviser joined our faculty ().**

PhD Dissertations (The Natural Resources PhD Program was approved in 1999)

- * Altor, Anne. 2007. Methane and carbon dioxide fluxes in created riparian wetlands in the Midwestern USA: Effects of hydrologic pulses, emergent vegetation and hydric soils.
- * Fink, Daniel. 2007. Effects of a pulsing hydroperiod on a created riparian river diversion wetland.
- Heimberger, Paul E. 2007. Composition, structure, and successional dynamics of Johnson Woods, an old-growth forest fragment in transition.
- Herrman, Kyle. 2007. Mechanisms controlling nitrogen removal in agricultural headwater streams.
- * Hernandez, Maria. 2006. The effect of hydrologic pulses on nitrogen biogeochemistry in created riparian wetlands in Midwestern USA.
- Anderson, Christopher. 2005. The influence of hydrology and time on productivity and soil development of created and restored wetlands.
- * Gilbert, Janice. 2004. Examining the link between macrophyte diversity, bacterial diversity, and denitrification function in wetlands.
- Fineran, Stacey A. 2003. Assessing Spatial and Temporal Vegetative Dynamics at Mentor Marsh, 1796 to 2000 A.D.
- * Watts, Stephen, E. 2001. Determining forest productivity and carbon dynamics in southeastern Ohio from remotely-sensed data.

M.S. Theses

- Anemaet, Evelyn. 2008. Belowground production in created and natural wetlands: nutrient limitation and functional development.
- Campbell, Amy L.. 2007. Sexual Reproduction in the Non-native Common Reed, *Phragmites australis* (Cav.) Trin. Ex Steudel: Seed Viability, Dormancy and Germination.
- Korfel, Chelsea. 2007. Hydrology, physiochemistry, and amphibians in natural and created vernal pool wetlands.
- * Rokosch, Abby. 2007. The use of soil parameters as indicators of quality in forested-depressional wetlands.
- Gamble, Debra. 2006. Tree growth and hydrologic patterns in forested mitigation wetlands.
- * Foster, Jill. 2006. The effect of dosing vehicle and arsenic speciation on arsenic bioaccessibility in smelter contaminated soil.
- Hossler, Kathleen. 2005. Accumulation of carbon created wetland soils and the potential to mitigate loss of natural wetland carbon-mediated functions.
- Kettlewell, Chad. 2005. An assessment of wetland impacts and compensatory mitigation in the Cuyahoga River Watershed, Ohio, USA.
- * Nahlik, Amanda. 2005. The effects of river pulsing on sedimentation in two created riparian wetlands.
- Rothman, Erin. 2005. *Phragmites australis* in a freshwater coastal wetland: implications for carbon dynamics.
- Swab, Rebecca. 2005. Effectiveness of *Lonicera maackii* removal from a bottomland hardwood forest in central Ohio.
- * Tuttle, Cassandra. 2005. The effects of hydrologic pulsing on aquatic metabolism in created riparian wetlands.
- Wolfe, T. 2005. Fertility and gametes quality assessment in sea lamprey using single cell electrophoresis (Comet assay).
- Froschauer, J. 2004. Assessment of lake sturgeon gametes viability in Great Lakes populations.
- Kudlu, Priyadarshini, 2004. Vegetation and plant diversity of a freshwater marsh on the coast of Lake Erie under high and low water conditions.
- * Lohan, Eric. 2004. A methodology to ecologically engineer watersheds for nitrogen nonpoint runoff

pollution control.

Morgan, Jennifer A. 2004. Impact of clipping *Phragmites australis* and flooding at two different depths on wetland vegetation structure in a Lake Erie marsh.

* Powell, Kelly. 2004. Denitrification in agricultural headwater ditches.

** Sablak, Gregg. 2004. Link between macroinvertebrate community, riparian vegetation and channel geomorphology in agricultural drainage ditches.

** Smialek, Jamie. 2003. Effect of plant species on gas production and emission in a newly constructed wetland.

* Gifford, Amie. 2002. The effect of macrophyte planting on amphibian and fish community use of two created wetland ecosystems in central Ohio.

* Higgins, Cheri. 2002. Ecosystem engineering by muskrats (*Ondatra zibethicus*) in created freshwater marshes.

* Reed, Sharon. 2002. Impact of macrophyte functional diversity on primary production and methane fluxes in wetlands.

*Funk, Jason, M. 2002. Where should we put the trees? Assessing economic and ecological implications of carbon sequestration policies in an urbanizing landscape.

Gibbs, Holly, K. 2001. Quantification human-induced changes in global vegetation and associated climatic parameters.

- 6. Does this proposed transcript designation involves core subject matter from other disciplines? Yes.**
 We do place our students in courses taught by ecologists in the department of EEOB and will continue to do so. A letter of support has been provided by the Chair of EEOB.

[\[1\]](#)

Assuming that an earned Master's of 45 credits is transferred in

Cormier, J. Briggs

From: Elliot Slotnick [slotnick.1@gradsch.ohio-state.edu]
Sent: Tuesday, June 17, 2008 3:36 PM
To: Cormier, J. Briggs
Subject: FW: I now remember

Read bottoms up—The initial written interaction on the nascent proposal...
e

From: Craig Davis [mailto:davis.80@osu.edu]
Sent: Thursday, September 06, 2007 1:10 PM
To: Elliot Slotnick
Subject: RE: I now remember

Elliot,

Thanks. I will do as you suggest.

Craig

Hi Craig,

You need to seek concurrence from EEOB-and anywhere else where the word might be in play that I am not thinking of. They can make nice and send us a supportive letter. They can remain agnostic and "not oppose," or they can object and send us a critical response. The latter, however, would not constitute a veto of your proposal but, rather, would be a factor in consideration of your request. There may be a move towards "conciliation" if they oppose with our bringing together a consultative meeting. In the end, if they continue to actively oppose, a judgment would have to be made at this end whether their arguments and concerns were compelling and should (or should not) carry the day.

I think that the best way for you to proceed would be to have advance contact with them (Chair or GSC Chair) to discuss prior to any formal submission to us and our request for their concurrence

Hope this helps and clarifies

Best,
elliot

From: Craig Davis [mailto:davis.80@osu.edu]
Sent: Thursday, September 06, 2007 12:01 PM
To: Slotnick.1@osu.edu
Subject: I now remember

Hi,

I just remembered what I wanted to ask you in your office this morning. It involves transcript designations. When we first discussed the possibility of creating transcript designations

met about a month ago in our conference room, I asked you if EEOB could block us from using ECOLOGY as a transcript designation. you said that we had to inform them, but they wouldn't have veto power.

Well, ECOLOGY is one of five transcript designations that we are planning to propose. We have 12 *bona fide* ecologists with Category P status on our graduate faculty, including me. Our graduate students mostly come to study under us because they are interested in our work. We train them to be ecologists who have an understanding of how ecology provides the underpinnings of many resource and environmental issues. When they graduate, especially those with the PhD, they think of themselves first and foremost as ecologists and pursue careers as such. Further, if you look at the original emphasis areas in our PhD program, you will that one of them is "Ecosystem Science." Ecosystem science is just a sideways way of saying ecology.

I see in the procedures for establishing transcript designations that we must get concurrence for closely related programs. So, I ask again: Can EEOB veto our use of ECOLOGY as one of our transcript designations?

Craig

--

Craig B. Davis, Ph.D.
Professor of Environment and Natural Resources
Professor of Environmental Science
School of Environment and Natural Resources
The Ohio State University
Columbus, OH 43210-1085
U.S.A.
(614) 292-3789

--

Craig B. Davis, Ph.D.
Professor of Environment and Natural Resources
Professor of Environmental Science
School of Environment and Natural Resources
The Ohio State University
Columbus, OH 43210-1085
U.S.A.
(614) 292-3789

Cormier, J. Briggs

From: Elliot Slotnick [slotnick.1@gradsch.ohio-state.edu]
Sent: Tuesday, June 17, 2008 3:37 PM
To: Cormier, J. Briggs
Subject: FW: Meeting on Friday morning

Attachments: Minutes 11-19-07 .doc



Minutes 11-19-07
.doc (37 KB)

The attached Minutes reference the movement towards "tracks" within the graduate program.

-----Original Message-----

From: Craig Davis [mailto:davis.80@osu.edu]
Sent: Wednesday, December 19, 2007 2:38 PM
To: Slotnick.1@osu.edu
Subject: Meeting on Friday morning

Elliot,

I have a meeting scheduled with you at 3 pm tomorrow, Thursday, Dec.

20. The matters I'd like to discuss are:

1. The Protocol for changing the name of our program to Environment and Natural Resources to describe better who we are and to bring the name into line with that of the School.
2. Changes in the organization of the Graduate Program in Natural Resources and in our PhD program recently approved by our graduate faculty. I am attaching the minutes of the November 19 graduate faculty meeting at which these changes were approved unanimously.
The new PhD committee structure combines the four committees described in the Graduate School Handbook into one committee with four areas of responsibility while satisfying the Graduate School requirements for graduate faculty membership.
3. Status of the MENR review process and a schedule for the submission of the final proposal. We got word last week that the Board of Trustees has approved it. I am still hoping to get the revised proposal done by the end of January.
4. The PhD program review and the possible inclusion in our program of a Soil Science track.

See you at 3 pm tomorrow.

Craig

--

Craig B. Davis, Ph.D.

Professor of Environment and Natural Resources Professor of Environmental Science School of Environment and Natural Resources The Ohio State University Columbus, OH 43210-1085 U.S.A.

(614) 292-3789

Natural Resources Graduate Faculty
Meeting Minutes
November 19, 2007
11:00 am to 1:00 pm

Members present: Craig Davis, Nick Basta, John Heywood, Konrad Dabrowski, Virginie Bouchard, Amanda Rodewald, Jeremy Bruskotter, Robert Gates, David Hix, David Johnson, Brian Slater, Roger Williams, William Mitsch, Stan Gehrt, Paul Rodewald, Jerry Bigham, Charles Goebel, Davis Sydnor, Earl Epstein, Kathryn Holmes, Joseph Campbell, and Andrea Richardson

Announcements

- MENR Approval Update

Action Items

Reorganization of the GPNR

1. Graduate Program Tracks

There was review and discussion of the four proposed tracks. Bill Mitsch and Virginie Bouchard requested that a track in “River and Wetland Restoration” be added. There was discussion on both sides, positive and negative. It was strongly felt that “restoration” needed to be added somewhere in the proposed tracks. The faculty members agreed to break “ecology” down in to two separate tracks: Ecosystem Science and Restoration Ecology. Bill Mitsch moved to accept this change in the tracks. Mohan Wali seconded the motion. The motion was approved 18 yea, 0 nay, 1 abstention.

Robert Gates moved that the five new tracks (Ecosystem Science, Restoration Ecology, Forestry Science, Environmental Social Sciences, and Wildlife and Fisheries Science) in the NRGP be approved, Amanda Rodewald seconded the motion. The five tracks were approved unanimously (19/0/0).

2. GSC Committee Restructuring along the Track Lines

There was brief discussion and review of the proposed changes to the GSC make-up. The faculty members agreed to one faculty representative from each track, one at-large faculty member, one MS rep, and one PhD rep. Davis Sydnor moved that this change be approved, Roger Williams seconded the motion. The motion was approved unanimously.

Modification of the NR PhD Program

Sub-specialization/Competency

The Graduate Studies Committee recommended the following:

- Abolish the Sub-specialization and the Sub-specialization Advisor
- Abolish the ENR 985 and 997 requirements

- Create a Competency Requirement for all PhD students: All PhD students must show competency in ecology and an environmentally relevant area of the social sciences. This can be satisfied by taking or having taken one graduate-level course in Ecology/Ecosystem Science and one graduate-level course in Environmental Policy, Law, Behavior, or Economics.
- Robert Gates moved to amend the GSC recommendation to retain ENR 985 as a requirement but reduce it from a 5-credit to a 3-credit course. This motion was seconded by Dr. Bouchard. After discussion, which included comments on ENR 985 from student representatives Joseph Campbell and Katherine Holmes, the amendment was approved unanimously. The amended GSC recommendation was then approved unanimously.

Restructure PhD Student Advisory Committee

The Graduate Studies Committee recommended the following:

Each PhD student shall have an Advisory/Examining Committee that shall comprise:

- a. The student's advisor who must be a Category P member of the GPNR faculty.
- b. Two members of the university graduate faculty. These individuals should hold Category P appointments, but can hold only Category M appointments if approved by the GSC and the Graduate School
- c. For the duration of the Pre-Candidacy period, the GSC would appoint a Program Representative who would satisfy the Graduate School's requirement for a fourth Graduate Faculty member. While this person would serve on what the Graduate School calls the Advisory and Candidacy Examination Committees, his or her primary role would be as a programmatic representative on the Candidacy Examination serving the same role at the program level as the Grad Rep did at the Graduate School level. The Program Representative would not serve on the Advisory/Examining Committee past the successful completion of the Candidacy Examination.
- d. The Graduate School will continue to appoint a Graduate School Representative to participate in the Final Examination.
- e. With the approval of the Graduate Studies Committee and the Graduate School, individuals who are not members of the graduate faculty may serve on the Advisory/Examining Committee but do not count in the required number of graduate faculty members.

David Johnson moved that the recommendations of the Graduate Studies Committee be approved. Davis Sydnor seconded the motion. The recommendations were approved unanimously.

Graduate School Review of PhD Programs – GPNR Approved Metrics

GSC Chair Craig Davis and committee member Nick Basta reviewed the ongoing review of all PhD programs being carried out by the Graduate School. Davis reviewed the set of metrics that the GSC submitted for our program (see below). These metrics have been approved by the College. Davis noted that future evaluations of the NRGF will focus on the goal we set forth in these metrics.

Metrics/Goals:

1. Raise the 3-Year Mean GRE scores for entering doctoral students over the next three years (2008-10) to: Verbal - 554, Quantitative – 706.
2. Raise the mean undergraduate GPA of accepted PhD students each year to 3.5.
3. Increase applications from the recent 3-year average of 17/year to at least 20/year over the next three years, maintain our admissions standards thereby maintaining or reducing our acceptance rate, and increase our matriculation rate to an average of 75%.
4. Establish time-to-completion targets of 5 years after the Masters Degree for full-time students and 7 years for part-time students.
5. All doctoral students should be placed either in quality post-doctoral programs within three months of graduation or in appropriate-level professional positions within academia, government, or the private sector within one year after graduation. We will design and implement an effective process for tracking our PhD graduates as they move through their professional careers.
6. Maintain a mean yearly publication rate of three refereed publications per faculty member in the Natural Resources Graduate Program and maintain an average two refereed papers from each dissertation.
7. Each doctoral student will present at least one presentation or poster on his or her dissertation research at a regional or national conference in his or her field. Applications to Graduate will not be signed until this presentation has been made.
8. Over the next three years we will admit at least one minority student into our PhD program.

Masters of Environment and Natural Resources (MENR)

The status of the MENR program was reviewed. Davis informed the faculty members that the GSC will be working on this during the winter quarter. There are lots of questions about where do we go with the MENR now that it is not

approved, e.g. what forms need to be created, recruitment ideas, course availability, advising, administration responsibility, etc.

The faculty members and students were thanked for their attendance and the meeting was adjourned!

Cormier, J. Briggs

From: Elliot Slotnick [slotnick.1@gradsch.ohio-state.edu]
Sent: Tuesday, June 17, 2008 3:45 PM
To: Cormier, J. Briggs
Subject: FW: Implementing changes to to PhD program in Natural Resources

From: Craig Davis [mailto:davis.80@osu.edu]
Sent: Monday, January 28, 2008 2:09 PM
To: Elliot Slotnick
Subject: RE: Implementing changes to to PhD program in Natural Resources

Elliot,

Here are the excerpts from our Nov. 19, 2007 graduate faculty meeting that deal with the approval of the reorganization of our program structure around Areas of Specialization, what we are calling Tracks. These tracks are:

1. Environmental Social Sciences, e.g. Policy, Management, Decision Making
2. Forest Science
3. Wildlife and Fisheries Science
4. Ecosystem Science
5. Restoration Ecology (an emerging area of research and application within ecosystem science that we think warrants its own program identity).

As you can see, this is simply a restructuring of our program to reflect already existing specialization areas and have the membership on the graduate studies committee include representatives from each of our specialization area. No new degree programs are created by these changes. You will recall that our PhD program is already organized around areas of specialization. Those areas are unchanged except that the education area is being diminished by attrition owing to changes in hiring priorities in the School.

These five areas will be proposed in the near future for approval as transcript designations.

Let me know if you need further information.

Craig

Reorganization of the GPNR

1. Graduate Program Tracks

There was review and discussion of the four proposed tracks. Bill Mitsch and Virginie Bouchard requested that a track in "River and Wetland Restoration" be added. There was discussion on both sides, positive and negative. It was strongly felt that "restoration" needed to be added somewhere in the proposed tracks. The faculty members agreed to break "ecology" down in to two separate tracks: Ecosystem Science and Restoration Ecology. Bill Mitsch moved to accept this change in the tracks. Mohan Wali seconded the motion. The motion was approved 18 yea, 0 nay, 1 abstention.

Robert Gates moved that the five new tracks (Ecosystem Science, Restoration Ecology, Forestry Science, Environmental Social Sciences, and Wildlife and Fisheries Science) in the NRGP be approved, Amanda Rodewald seconded the motion. The five tracks were approved unanimously (19/0/0).

2. GSC Committee Restructuring along the Track Lines

There was brief discussion and review of the proposed changes to the GSC make-up. The faculty members agreed to the faculty

representative from each track, one at-large faculty member, one MS rep, and one PhD rep. Davis Sydnor moved that this change be approved, Roger Williams seconded the motion. The motion was approved unanimously.

Craig,

We should take a look at that as well-mostly to simply confirm that no new degree program is being created.

Best,

e

From: Craig Davis [mailto:davis.80@osu.edu]
Sent: Friday, January 25, 2008 5:44 PM
To: Elliot Slotnick
Subject: RE: Implementing changes to to PhD program in Natural Resources

Elliot,

That would be great. Do I need Grad School approval of our new Track organizational structure in our program or is that strictly an internal operations matter?

Craig

Craig,

I'm having a couple of our "rules folks" take a look at this over here-so far no problems, and I will spend a minute on it with the Curriculum Committee on Monday. Hopefully, I can give you the go-ahead early next week.

Best,

elliott

From: Craig Davis [mailto:davis.80@osu.edu]
Sent: Thursday, January 24, 2008 2:33 PM
To: Elliot Slotnick
Subject: RE: Implementing changes to to PhD program in Natural Resources

Elliot,

I sent you the PhD changes prior to our meeting to discuss them. I am appending them here. Actually, these come right from the minutes of our November 19 graduate faculty meeting.

Modification of the NR PhD Program

Sub-specialization/Competency

The Graduate Studies Committee recommended the following:

- Abolish the Sub-specialization and the Sub-specialization Advisor
- Abolish the ENR 985 and 997 requirements

- Create a Competency Requirement for all PhD students:

All PhD students must show competency in ecology and an environmentally relevant area of the social sciences. This can be

satisfied by taking or having taken one graduate-level course in Ecology/Ecosystem Science and one graduate-level course

in Environmental Policy, Law, Behavior, or Economics.

- Robert Gates moved to amend the GSC recommendation to retain ENR 985 as a requirement but reduce it from a 5-credit to a 3-credit

course. This motion was seconded by Dr. Bouchard. After discussion, which included comments on ENR 985 from student

representatives Joseph Campbell and Katherine Holmes, the amendment was approved unanimously. The amended GSC

recommendation was then approved unanimously.

The Graduate Studies Committee recommended the following changes in the PhD Student Advisory Committee structure:

Each PhD student shall have an Advisory/Examining Committee that shall comprise:

- a. The student's advisor who must be a Category P member of the GPNR faculty.
- b. Two members of the university graduate faculty. These individuals should hold Category P appointments, but can hold only Category M appointments if approved by the GSC and the Graduate School
- c. For the duration of the Pre-Candidacy period, the GSC would appoint a Program Representative who would satisfy the Graduate School's requirement for a fourth Graduate Faculty member. While this person would serve on what the Graduate School calls the Advisory and Candidacy Examination Committees, his or her primary role would be as a programmatic representative on the Candidacy Examination serving the same role at the program level as the Grad Rep did at the Graduate School level. The Program Representative would not serve on the Advisory/Examining Committee past the successful completion of the Candidacy Examination.
- d. The Graduate School will continue to appoint a Graduate School Representative to participate in the Final Examination.

e. With the approval of the Graduate Studies Committee and the Graduate School, individuals who are not members of the
graduate faculty may serve on the Advisory/Examining Committee but do not count in the required number of graduate
faculty members.

David Johnson moved that the recommendations of the Graduate Studies Committee be approved. Davis Sydnor seconded the motion.

The recommendations were approved unanimously.

The reason for the replacement of the sub-specialization requirement with a competency requirement is that we have found over the past eight years that the sub-specialization component of the program is unwieldy and inconsistent in its application. The restructuring of the students' advisory committee is meant to bring some clarity and consistency to the functionality of that (those) committee(s). We also wanted to add some programmatic oversight to the process through the Candidacy Exam. As you can see in the above excerpts from the faculty meeting minutes, these changes were approved unanimously.

We are anxious to implement the new system with this year's beginning PhD students.

Craig

Hi Craig,

Sorry--this one fell through the cracks of my initial triage efforts since returning to the office.

Have we been given notice of the specific changes? I know that we chatted about prospective ones some time ago. Generally, when a program

makes internal changes they send them through us for a check to make sure that nothing is being done that is counter to our rules or that requires more than internal approval. I run the notice through our Curriculum Committee processes and, as soon as they sign off on it they generally can be implemented. But it all starts with giving us a look at what you've approved. Sometimes, the alterations are so driven by local option that I just take a look at it and give you the okay for implementation without even taking it to the Committee--"administrative approval," or something like that...

Best,
elliot

-----Original Message-----

From: Craig Davis [mailto:davis.80@osu.edu]

Sent: Thursday, January 17, 2008 1:18 PM

To: Slotnick.1@osu.edu

Subject: Implementing changes to to PhD program in Natural Resources

Elliot,

Can you advise me on when we might be able to implement the changes in our PhD program that were approved by our faculty on Nov. 19, 2007? We are anxious to be able to advise our new doctoral students about which rules they must follow.

Craig

--

Craig B. Davis, Ph.D.
Professor of Environment and Natural Resources
Professor of Environmental Science
School of Environment and Natural Resources
The Ohio State University
Columbus, OH 43210-1085
U.S.A.
(614) 292-3789

--

Craig B. Davis, Ph.D.
Professor of Environment and Natural Resources
Professor of Environmental Science
School of Environment and Natural Resources
The Ohio State University
Columbus, OH 43210-1085
U.S.A.
(614) 292-3789

--

Craig B. Davis, Ph.D.
Professor of Environment and Natural Resources
Professor of Environmental Science
School of Environment and Natural Resources
The Ohio State University
Columbus, OH 43210-1085
U.S.A.
(614) 292-3789

--

Craig B. Davis, Ph.D.
Professor of Environment and Natural Resources
Professor of Environmental Science
School of Environment and Natural Resources
The Ohio State University
Columbus, OH 43210-1085
U.S.A.
(614) 292-3789

Cormier, J. Briggs

From: Elliot Slotnick [slotnick.1@gradsch.ohio-state.edu]
Sent: Tuesday, June 17, 2008 3:47 PM
To: Cormier, J. Briggs
Subject: FW: Concurrence

-----Original Message-----

From: Craig Davis [mailto:davis.80@osu.edu]
Sent: Thursday, May 08, 2008 11:47 AM
To: curtis.7@osu.edu
Cc: slotnick.1@osu.edu; Jerry Bigham
Subject: Concurrence

Peter,

I just received a note from Elliot Slotnick in the Graduate School noting that they are awaiting receipt of a letter of concurrence from EEOB before they conclude consideration of our request for Areas of Specialization in Ecosystem Science and Ecological Restoration within our graduate program. When I submitted our proposals to the Graduate School I indicated that I had requested a letter of support from you.

Where do you stand in your process of generating such a letter for us? Do you need anything from us before you can move this forward?

Hope to hear from you soon on this.

Craig

--

Craig B. Davis, Ph.D.

Professor of Environment and Natural Resources Professor of Environmental Science School of Environment and Natural Resources The Ohio State University Columbus, OH 43210-1085 U.S.A.
(614) 292-3789

Cormier, J. Briggs

From: Elliot Slotnick [slotnick.1@gradsch.ohio-state.edu]
Sent: Tuesday, June 17, 2008 3:47 PM
To: Cormier, J. Briggs
Subject: FW:

From: Craig Davis [mailto:davis.80@osu.edu]
Sent: Thursday, May 08, 2008 12:06 PM
To: Elliot Slotnick
Subject: Re:

Elliot,

Thanks. I will respond to this with dispatch. I have also sent a note to Peter Curtis in EEOB asking about the status of their review of our proposals and request for concurrence. I cc'd you on this.

One question related to Item #2 below: Historically, our program has placed much responsibility for determining the courses that graduate students place on their Programs of Study on the shoulders of those students' advisory committees. The actual result of this is that most students in a given field, say Wildlife, would have many of the same courses on their Programs of Study. But, we have found that the flexibility that our process provides in tailor-making Programs of Study for individual students works, and while there are similarities and overlaps in POS make up, there are also differences that reflect the student's background and specific research-driven course work needs. It would be possible for us to designate those courses that are nearly always included in the Programs of Study as core courses in each of our Areas of Specialization. We will certainly do that if the Curriculum Committee believes that it is important to do so. Please advise on how I should precede with my response to item #2.

Thanks.

Craig

Dear Craig,

I'm writing to give you the feedback of our Curriculum Committee to your proposal to create transcript designations for your current five areas of specialization in the Natural Resources Graduate Program. As you'll see, there will be a need for some, albeit relatively light, revision of your proposal. The Committee will return to reviewing the proposal as soon as you've incorporated any necessary revisions into your proposal document. The specific concerns raised are detailed below:

1. The cover material submitted along with your specific proposals for the five tracks included your March 5, 2008 letter sent to Randy Smith regarding the broader name change issue for your graduate program. While not, necessarily, part of your proposal to create five formal graduate specializations in the Natural Resources program, the Committee was confused by one aspect of the letter, specifically, the distinction between your reference to "four tracks" and "five areas of specialization." What are the "tracks" and what is their value independent of the proposed specialization areas? There is no real other mention of the tracks, per se, unless they are referencing the Forestry, Fisheries, Wildlife and Parks and Recreation areas in the letter. Beyond clarifying the tracks for the Committee, how will they interface with the proposed specializations? Can a specific specialization be earned within multiple tracks? Can individual students earn more than one of the five specializations-while enrolling in only a single track? As you can see, the track/specialization matter caused significant confusion for the Committee and any and all efforts to clarify

those distinctions and their implications will be of great help when we return to the proposal's vetting.

2. The proposal offers excellent detailing of the specific substantive areas that serve as the focal points for the proposed graduate specializations. Clearly, their substantive foci, faculty representation, specific course listings, and reported student data were all quite compelling. What was missing within each of the specialization proposals was the delineation of the requirements that students must meet to earn the specialization. Thus, course listings are included but do you mean to imply that students need to take all of the courses listed within the specialization to be able to get the transcript designation? If not, what are the curriculum requirements that students must meet? Are there required core courses in each specialization? Credit hour requirements? Etc

3. Finally, mention is made in several of the specialization proposals of the relationship between what you are doing and EEOB. You also indicate that a letter has been solicited from EEOB to comment on your proposal. Final action on your proposal will await that letter's receipt.

Please don't hesitate to contact me, Craig, if you have any questions or concerns. Obviously, the requested revisions are quite do-able and we'll look forward to returning to the proposal's vetting in the not too distant future.

Best,
elliott

--

Craig B. Davis, Ph.D.
Professor of Environment and Natural Resources
Professor of Environmental Science
School of Environment and Natural Resources
The Ohio State University
Columbus, OH 43210-1085
U.S.A.
(614) 292-3789

Cormier, J. Briggs

From: Elliot Slotnick [slotnick.1@gradsch.ohio-state.edu]
Sent: Tuesday, June 17, 2008 3:47 PM
To: Cormier, J. Briggs
Subject: FW: NRGP response on Areas of Specialization

Attachments: Response to Elliot.final.5=16.d



Response to
Elliot.final.5=16....

-----Original Message-----

From: Craig Davis [mailto:davis.80@osu.edu]
Sent: Friday, May 16, 2008 2:25 PM
To: slotnick.1@osu.edu
Subject: NRGP response on Areas of Specialization

Elliot,

I have attached our response to the questions that the Graduate School Curriculum Committee raised about our proposals for approval of five Areas of Specialization/Transcript Designations. Please get back to me if you need anything else. I have sent a copy of this response to Peter Curtis in EEOB and asked that he expedite his letter of concurrence. I have no reason to think that there will be any problems in getting that letter.

Peter suggested last week that we add two EEOB courses to our list of courses in our proposals for Areas of Specialization in Ecosystem Science and Ecological Restoration. I explained to him that that would not be appropriate because it is my understanding that the courses on that list should be restricted to those taught by our faculty in those two specialization areas. I did make note in the attached response of the EEOB courses most commonly taken by our graduate students. Our students will continue to take these and other EEOB courses, but these will be in addition to the 15 and 20 minima that must be selected for the lists of SENR courses.

Let me know if you need anything else. I will be away from campus from May 21 to 30, but you can reach me on my cell phone at 614-582-0297. In my absence, my assistant Renee Johnston will be handling things.

I am taking the MENR proposal with me next Wednesday and will try to finish it while travelling. Is that wishful thinking? Hope not!

Take care,

Craig

--

Craig B. Davis, Ph.D.

Professor of Environment and Natural Resources Professor of Environmental Science School of Environment and Natural Resources The Ohio State University Columbus, OH 43210-1085 U.S.A.

(614) 292-3789

Cormier, J. Briggs

From: Elliot Slotnick [slotnick.1@gradsch.ohio-state.edu]
Sent: Tuesday, June 17, 2008 3:48 PM
To: Cormier, J. Briggs
Subject: FW: Transcript Designations

-----Original Message-----

From: Craig Davis [mailto:davis.80@osu.edu]
Sent: Friday, June 06, 2008 3:55 PM
To: Elliot Slotnick
Subject: RE: Transcript Designations

Thanks Elliot,

As usual, it's a pleasure working with you. I will send Peter a note today.

Craig

>The Curriculum Committee approved your proposal earlier this week based
>on your revisions. I still need to get something from Peter Curtis and
>will chase that down unless you can get there first. Once I have that,
I

>will forward it on to Randy Smith for CAA review which will occur over
>the summer. Their review will be all that is needed to "make it so."

>
>Sorry for not following up since the meeting. We've got some very
>immediate post-program review work (responding to college memos) and I
>put the Curriculum follow-up on hold until next week. Should have told
>you of your "success" however...

>
>e
>

>-----Original Message-----

>From: Craig Davis [mailto:davis.80@osu.edu]
>Sent: Friday, June 06, 2008 2:24 PM
>To: slotnick.1@osu.edu
>Subject: Transcript Designations

>
>Hi,
>

>What is the status of our proposals for Areas of Specialization/
>Transcript Designations?

>
>Craig

>--
>Craig B. Davis, Ph.D.
>Professor of Environment and Natural Resources Professor of
>Environmental Science School of Environment and Natural Resources The

>Ohio State University Columbus, OH 43210-1085 U.S.A.
>(614) 292-3789

--

Craig B. Davis, Ph.D.
Professor of Environment and Natural Resources
Professor of Environmental Science
School of Environment and Natural Resources
The Ohio State University
Columbus, OH 43210-1085
U.S.A.
(614) 292-3789

Cormier, J. Briggs

From: Elliot Slotnick [slotnick.1@gradsch.ohio-state.edu]
Sent: Tuesday, June 17, 2008 3:48 PM
To: Cormier, J. Briggs
Subject: FW: FW: Concurrence

-----Original Message-----

From: Craig Davis [mailto:davis.80@osu.edu]
Sent: Monday, June 09, 2008 1:44 PM
To: Elliot Slotnick
Cc: curtis.7@osu.edu
Subject: Re: FW: Concurrence

Elliot,

Master's students will have to include 15 credits of course work from the list of ENR courses listed in our proposal. Doctoral students will have to include 20. But, most, if not all, of our students in the two ecologically-oriented Areas of Specialization will also take EEOB courses, in some cases several. This has been the case with our ecologically-oriented students for many years. The list we provided in the proposal was meant to demonstrate that NRGF faculty alone teach enough courses in the two Areas of Specialization to justify our being able to train students in those areas. By the way, Peter Curtis is on our graduate faculty, so we could actually list his courses in our proposal list.

Let me know if this doesn't clarify things.

Craig

>Hi Craig,

>

>Please see below. Is it not the case that you DON'T those courses
>counted as part of the specialization requirements as per your note of
>5/16?

>

>e

>

>

>

>-----Original Message-----

>From: Peter Curtis [mailto:curtis.7@osu.edu]
>Sent: Monday, June 09, 2008 9:20 AM
>To: Elliot Slotnick; Craig Davis
>Subject: RE: Concurrence

>

>Dear Elliot,

>

>My apologies this has been so late in coming. It has been a busy
>couple of weeks over here as I am sure you can imagine.

>

>I am happy to provide concurrence from EEOB to the proposal from SENR
>to add Areas of Specialization to the degrees conferred through the
>Natural Resources Graduate Program. It is my understanding that
>relevant courses currently offered by EEOB, such as those listed by Dr.
>Davis in his memo to you of 16 May, may be applied towards the credit
>hours required by students for their Area of Specialization courses.

>
>Regards,

>
>Peter Curtis

>
>Professor and Chair

>
>
>
>
>
>At 04:00 PM 6/6/2008, Elliot Slotnick wrote:

>>Hi Peter,
>>

>>We don't really need much--just a statement indicating that your have
>no
>>objections (if, indeed, you have no objections!) from the EEOB front.

>If
>>you do have any concerns, just let us know what they are and how, if
>>possible, they might be alleviated.

>>
>>Best,
>>elliot

>>
>>
>>
>>-----Original Message-----

>>From: Craig Davis [mailto:davis.80@osu.edu]
>>Sent: Friday, June 06, 2008 3:58 PM
>>To: curtis.7@osu.edu
>>Subject: Concurrence

>>
>>Peter,
>>

>>Elliot Slotnick is awaiting your letter regarding our request for
>>approval of five Areas of Specialization/Transcript Designations. I
>>know that this is not the most pressing thing on your schedule these
>>days, but if you could expedite it, I'd appreciate it.

>>
>>Thanks.

>>
>>Craig

>>--
>>Craig B. Davis, Ph.D.

>>Professor of Environment and Natural Resources Professor of
>>Environmental Science School of Environment and Natural Resources The
>>Ohio State University Columbus, OH 43210-1085 U.S.A.

>>(614) 292-3789

>>

>>

>>--

--

Craig B. Davis, Ph.D.

Professor of Environment and Natural Resources Professor of Environmental Science School of Environment and Natural Resources The Ohio State University Columbus, OH 43210-1085 U.S.A.

(614) 292-3789