NATURAL RESOURCES AND ENVIRONMENTAL SCIENCES

http://nres.illinois.edu

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Major: Natural Resources and Environmental Sciences

Degrees Offered: M.S., Ph.D.

Online Program: Natural Resources and Environmental Sciences

Degrees Offered: M.S.

Joint Degree Program: Master of Science in Natural Resources and Environmental Sciences and Juris Doctor in Law

Degrees Offered: M.S. and J.D.

Medical Scholars Program: Doctor of Philosophy (Ph.D.) in Natural Resources and Environmental Sciences and Doctor of Medicine (M.D.) through the Medical Scholars Program (http://www.med.illinois.edu/msp)

Graduate Degree Program

The Department of Natural Resources and Environmental Sciences is a broad and diverse department offering flexible M.S. and Ph.D. degrees. The mission of the department is to establish and implement research and educational programs that enhance environmental stewardship in the management and use of natural, agricultural, and urban systems in a socially responsible manner. The department is composed of approximately 24 faculty, 60 affiliates, and 160 graduate students. Offering education and research in a variety of disciplines, the department provides a systems-level perspective that few other departments can offer. Further illustrating the breadth of natural resources and environmental sciences, research areas include but are not limited to:

- agronomy/agroecology
- aquatic chemistry
- conservation ecology
- ecosystem science
- environmental education
- fish and wildlife ecology and management
- forest ecology
- humans dimensions of the environment
- landscape ecology
- microbial ecology
- natural resource economics
- natural resource policy
- plant ecology
- physiology and genetics
- restoration ecology
- quantitative and spatial analysis
- soil science and conservation
- sustainability

Admission

NRES graduate advisers are seeking students with strong letters of reference, evident motivation to undertake graduate study, relevant experience, and good preparation in prerequisite courses. Graduate applicants must have an undergraduate grade point average (GPA) of 3.0 (A = 4.0) calculated on the last 2 years of undergraduate coursework to be admitted with full status. Ph.D. applicants must have earned an M.S. (or expect to be awarded the degree before beginning the NRES program) with a grade point average of at least 3.5. Applicants should have adequate preparation in the fundamental sciences and courses appropriate to their proposed field of study (applicants should talk with prospective advisers about the background they expect). Those without the necessary prerequisites may be accepted conditionally, and the undergraduate courses must be completed before the degree will be awarded. The Graduate Record Examination (GRE) is required of all students applying to the campus M.S. or Ph.D. program. There is no minimum score for admission, and the results will be examined along with GPA, letters of recommendation, statement of purpose, research experience, and other information in the application package. However, successful applicants typically have a combined quantitative/verbal/analytical GRE percentile of at least 70%. Students whose native language is not English are required to submit the results of the TOEFL or IELTS as evidence of English proficiency. Official scores are required to be submitted directly from TOEFL/ETS or IELTS to the University. Minimum English test scores and other information for international applicants can be found at: www.grad.illinois.edu/admissions/apply/begin/international (http://www.grad.illinois.edu/admissions/apply/begin/international). Applicants who are not U.S. citizens must also submit evidence that they have sufficient financial support for their program of study. Prospective graduate students are urged to apply for admission to the degree program as early as possible, preferably six to ten months before the beginning of the semester in which they expect to enroll. Prospective students must review important application information available at http://nres.illinois.edu/graduate/prospective. Applicants to the campus programs wishing to be considered for a fellowship must apply for admission to the fall semester by January 15th.

Medical Scholars Program

The Medical Scholars Program permits highly qualified students to integrate the study of medicine with study for a graduate degree in a second discipline, including Natural Resources and Environmental Sciences. Students may apply to the Medical Scholars Program prior to beginning graduate school or while in the graduate program. Applicants to the Medical Scholars Program must meet the admissions standards for and be accepted into both the doctoral graduate program and the College of Medicine. Students in the dual degree program must meet the specific requirements for both the medical and graduate degrees. On average, students take eight years to complete both degrees. Further information on this program is available by contacting the Medical Scholars Program, 125 Medical Sciences Building, (217) 333-8146 or at www.med.illinois.edu/msp (http://www.med.illinois.edu/msp).

Graduate Teaching Experience

Although teaching is not a Graduate College requirement, experience in teaching is considered an important part of this graduate program, particularly for Ph.D. students.

Information listed in this catalog is current as of 06/2016
Faculty Research Interests
Graduate degree programs in NRES are informed by the major areas of faculty research, which include:

- agronomy/agroecology
- conservation ecology
- ecosystem science
- fish and wildlife ecology and management
- forest ecology
- global environmental change
- human dimensions of natural resources and ecology
- landscape ecology
- microbial ecosystems
- natural resource policy
- plant ecology
- physiology and genetics
- quantitative and spatial methods
- restoration ecology
- soil science and conservation
- sustainability
- water/biogeochemistry
- wetland ecology

Students in NRES can participate in affiliated programs like those listed below.

Program in Environmental and Resource Economics: Students involved in the program in Environmental and Resource Economics (pERE) explore the complex relationships between natural resource allocation, environmental quality and economic prosperity. Students and faculty from five other University departments in addition to NRES are using economics to analyze policy toward some of today's most critical environmental and natural resource issues.

Human Dimensions of Environmental Systems: NRES graduate students may participate in HDES, an interdisciplinary program comprised of faculty from six colleges at Illinois. Participants are united in the study of connections between humans and the environment. The program is built on the premise that the best insights are not limited to the domain of a single discipline and is interdisciplinary in all its pursuits.

Financial Aid
Several sources of financial aid are available within the department:

- research assistantships, supported by federal and grant funds made available to the natural resources and environmental sciences faculty
- teaching assistantships
- departmental fellowships
- University fellowships
- College of Agricultural, Consumer and Environmental Sciences Jonathan Baldwin Turner Fellowships
- waivers of tuition and fees

Most NRES graduate students with financial support have a research assistantship provided by the adviser. Appointments as research and teaching assistants and fellows provide a stipend and waive tuition and some fees.

Financial aid is granted on a competitive basis. Applicants are judged for academic potential based on past performance, experience, motivation, dedication to the designated area of interest and, where applicable, the potential to satisfy the objectives of a donor. Fellowships have minimum GPA and GRE score requirements. Information about the current availability of financial aid can be obtained from the graduate coordinator or, in the case of research assistantships, directly from faculty members working in the area of interest.

Master of Science in Natural Resources and Environmental Sciences
Two options are open to students who wish to pursue a Master of Science degree in the Department of Natural Resources and Environmental Sciences. The M.S. Thesis Option program helps students develop into researchers. Coursework is no longer the primary focus, and students learn how to create, plan, and carry out independent research. The M.S. Non-Thesis Option program guides students in the acquisition of professional expertise beyond the undergraduate degree. The program requires a culminating/capstone experience, which may be satisfied in one of three ways: an individual investigative project, a collaborative, possibly interdisciplinary, group project, or a professional internship experience. The Non-Thesis Option may also be appropriate in special cases where a student executes a major special project which is equivalent to a M.S. thesis, but which does not lend itself to the thesis format. Students on campus are admitted into the thesis option and, under certain conditions, may be allowed to transfer into the non-thesis option by petitioning the Department. In contrast, all students in the online M.S. program are admitted into the non-thesis option unless they have identified a thesis advisor before being admitted.

The thesis option requires that the student satisfactorily complete a minimum of 32 hours of graduate coursework, of which a minimum of 12 graduate hours are 500-level courses. This coursework shall include NRES Seminar (500) each semester, minus one, that the student is enrolled, Professional Orientation (594) and 4 to 12 graduate hours of Thesis Research (599), which culminates in the completion and oral defense of a thesis.

A non-thesis option student must satisfactorily complete a minimum of 32 hours of graduate coursework, of which a minimum of 12 graduate hours are 500-level courses, Professional Orientation (594), and 3 to 8 hours of capstone experience in the form of a Capstone Research Project (503), Capstone Internship Experience (505), or Capstone Group Research Project (507). The student must prepare and submit a report analyzing the capstone learning experience and perform satisfactorily on written and oral final examinations.

Thesis Option

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Required</th>
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</thead>
<tbody>
<tr>
<td>NRES 594</td>
<td>NRES Professional Orientation 1</td>
</tr>
<tr>
<td>Electives</td>
<td>19-27</td>
</tr>
<tr>
<td>NRES 599</td>
<td>Thesis Research (min/max applied toward degree) 4-12</td>
</tr>
<tr>
<td>Total Hours</td>
<td>32</td>
</tr>
</tbody>
</table>

Other Requirements
Other requirements may overlap

Minimum 500-level Hours Required 12

Overall:
Completion, defense and deposit of thesis
Minimum GPA: 3.0

1 For additional details and requirements refer to the department’s Graduate Handbook (http://nres.illinois.edu/graduate/handbook) and the Graduate College Handbook (http://www.grad.illinois.edu/gradhandbook).

Non-Thesis Option

NRES 594  NRES Professional Orientation 1
Select one of the following 3-8
NRES 503  Capstone Research Project
NRES 505  Capstone Internship Experience
NRES 507  Capstone Group Res Project
Electives 23-28
Total Hours 32

Other Requirements 1
Other requirements may overlap
Minimum 500-level Hours Required 12
Overall:
Written final examination; preparation, presentation, oral exam, and approval of a capstone project report.
Minimum GPA: 3.0

1 For additional details and requirements refer to the department’s Graduate Handbook (http://nres.illinois.edu/graduate/handbook) and the Graduate College Handbook (http://www.grad.illinois.edu/gradhandbook).

Doctor of Philosophy in Natural Resources and Environmental Sciences

The Ph.D. program prepares students to be an expert in their fields. Earning a Ph.D. involves mastering a field of study and increasing the knowledge and understanding in that field through the completion of a dissertation that makes a contribution to existing research. Students working toward the Ph.D. degree are required demonstrate competency in at least three content areas by passing a general examination (the preliminary examination) before admission to candidacy for the doctoral degree. Students consult with their advisers to identify their competency content areas and the courses they will take, which are recorded on the Doctoral Plan of Study. The NRES Ph.D. program requires students to register for NRES Seminar (500) each semester, minus two, that the student is enrolled. To earn the doctorate, students must successfully complete a final oral examination (thesis defense). In most cases, students earn a M.S. before starting work on a Ph.D. However, in certain cases, it is possible to take the coursework required for the M.S. as part of a Ph.D. program. Details of the B.S. to Ph.D. program are available from the graduate coordinator.

NRES 594  NRES Professional Orientation (need not be repeated if taken as an NRES M.S. student) 1
Graded Coursework (not including NRES 501, 512 or other independent study or readings course) 12
Electives 0-51

NRES 503  Capstone Research Project
NRES 505  Capstone Internship Experience
NRES 507  Capstone Group Res Project
Electives 23-28
Total Hours 32

Other Requirements 1
Other requirements may overlap
Minimum GPA: 3.0
Masters Degree Required for Admission to Ph.D? Yes
Qualifying Exam Required No
Preliminary Exam Required Yes
Final Exam/Dissertation Defense Required Yes
Dissertation Deposit Required Yes

1 For additional details and requirements refer to the department’s Graduate Handbook (http://nres.illinois.edu/graduate/handbook) and the Graduate College Handbook (http://www.grad.illinois.edu/gradhandbook).

M.S. in Natural Resources and Environmental Sciences and J.D. in Law

Prospective students interested in specializing in environmental or natural resource law are invited to explore our joint degree program. This unique program is offered through collaboration between the College of Law and the Department of Natural Resources and Environmental Sciences. Many law schools have responded to public concern about the environment by offering more courses in natural resources and environmental law. The University of Illinois at Urbana-Champaign goes one step further, however, allowing students to supplement a law program with training in a related scientific field.

Thesis Option

NRES 594  NRES Professional Orientation 1
LAW 616  Environmental Law and Pol I 3-4
LAW 618  Natural Resources 2-4
LAW 622  Land Use Planning 2-4
Research/Project/Independent Study Hours (Optional - min/max applied toward degree): 4-8
NRES 599  Thesis Research (min/max applied toward degree) 4-12
Requirements for the JD in Law 90
Total Hours 102

Other Requirements 1
Other requirements may overlap
Minimum 500-level Hours Required 12
Overall:
Completion, defense and deposit of thesis.
Students may count up to 12 hours of NRES course work toward the required 90 hours of Law course work. They may also count 8 hours of Law credit toward the 32 hours required for the M.S. degree
Minimum GPA: 3.0

1 For additional details and requirements refer to the department’s Graduate Handbook (http://nres.illinois.edu/graduate/handbook) and the Graduate College Handbook (http://www.grad.illinois.edu/gradhandbook).
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Non-Thesis Option

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<td>Environmental Law and Pol I</td>
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<td>NRES 505</td>
<td>Capstone Internship Experience</td>
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<td>NRES 507</td>
<td>Capstone Group Res Project</td>
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Requirements for the JD in Law

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<td>Minimum GPA:</td>
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Online M. S. Program

The online M. S. graduate program in NRES enables students to continue their education in disciplines related to natural resources and environmental sciences through part-time study at locations away from the Urbana-Champaign campus. This program meets the needs of persons currently working or wanting to work in the areas of conservation, ecology, restoration ecology, soil science, sustainable development, urban ecology, urban forestry, urban wildlife management, and water resources management. Students can enroll in individual courses for professional and/or academic advancement, or apply for admission to the M.S. degree program. Application deadlines and other important information are available at [http://nres.illinois.edu/graduate/future/apply](http://nres.illinois.edu/graduate/future/apply).

The thesis option requires that the student satisfactorily complete a minimum of 32 hours of graduate coursework, of which a minimum of 12 graduate hours are 500-level courses. This coursework shall include Professional Orientation (594) and 4 to 12 graduate hours of Thesis Research (599), which culminates in the completion and oral defense of a thesis.

A non-thesis option student must satisfactorily complete a minimum of 32 hours of graduate coursework, of which a minimum of 12 graduate hours are 500-level courses, Professional Orientation (594), and 3 to 8 hours of capstone experience in the form of a Capstone Research Project (503), Capstone Internship Experience (505), or Capstone Group Research Project (507). The student must prepare and submit a report summarizing the capstone learning experience and perform satisfactorily on a final examination.