

# NATURAL RESOURCES & ENVIRONMENTAL SCIENCES, MS

*for the degree of Master of Science in Natural Resources & Environmental Sciences (on campus & online)*

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
- human 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

### *Thesis Program (on campus)*

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 Exam (GRE) is not required of M.S. and Ph.D. applicants. However, consideration for some fellowships does require GRE scores. 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. Please see Minimum English test scores (<https://grad.illinois.edu/admissions/apply/begin/international/>) and other information for international applicants. 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 (<https://nres.illinois.edu/academics/graduate-degrees/graduate-student-resources/>). Applicants to the campus programs wishing to be considered for a university-level fellowship must apply for admission to the fall semester by December 15th, and, to be considered for any college or departmental funding, the application deadline is January 1st.

### *Non-Thesis Program (online)*

Requirements and processes for application to the NRES Online M.S. program are available here (<https://nres.illinois.edu/future-students/admissions/online-graduate-admissions/>). The following application deadlines apply:

- Fall semester - June 15
- Spring semester - November 15
- Summer term - March 15

## 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.

## 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

## Financial Aid

For full-time students pursuing the thesis option on campus, 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. Some 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.

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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 and, under certain conditions, may be allowed to transfer into the thesis option by petitioning the Department.

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.

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. All online M.S. students are admitted to the non-thesis option, though, under certain conditions, a degree-seeking online student may petition the Department to transfer to the thesis option. Application deadlines and other important information are available online (<https://nres.illinois.edu/future-students/admissions/graduate-admissions/>).

For additional details and requirements refer to the department's Graduate Handbook (<https://nres.illinois.edu/academics/graduate-degrees/graduate-student-resources/>) and the Graduate College Handbook (<http://www.grad.illinois.edu/gradhandbook/>).

**This degree program can be completed either on campus or online; with or without a thesis, the requirements are listed below:**

### Thesis Option

Code	Title	Hours
<b>Thesis Option:</b>		
NRES 594	NRES Professional Orientation	1
Electives		19-27
NRES 599	Thesis Research (min/max applied toward degree)	4-12
Completion, defense and deposit of thesis		
<b>Total Hours</b>	<b>Thesis Option</b>	<b>32</b>

<b>Non-Thesis Option:</b>		
NRES 594	NRES Professional Orientation	1
Select one of the following:		
NRES 503	Capstone Research Project	
NRES 505	Capstone Internship Experience	
Electives		23-28
Written final examination; preparation, presentation, oral exam, and approval of a capstone project report		
<b>Total Hours</b>	<b>Non-Thesis Option</b>	<b>32</b>

## Other Requirements

Requirement	Description
Other requirements may overlap	
Minimum 500-level Hours Required	12
Overall:	
Minimum GPA:	3.0

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## Thesis

1. Student has ability to design and implement research that integrates core knowledge related to their discipline.
2. Student can apply the research tools and techniques, data analysis techniques, and professional skills necessary for their subject matter.
3. Student has written and oral communication skills appropriate for their disciplinary field.
4. Student exhibits professionalism through leadership, well-developed problem solving abilities, and ethical thinking.
5. Student has skills necessary for effective teaching and/or mentoring.

## Non-Thesis

Completing the non-thesis M.S. program requires a broad grasp of current scholarly understanding of natural resources and environmental sciences. In particular, students are responsible for demonstrating adequate mastery in four core areas of study:

1. Statistics and Research Design,
2. Spatial Analysis and Modeling,
3. Ecosystem Science and Conservation Biology, and
4. Human Dimensions of the Environment, Stewardship, and Management.

Students must take at least one course in each of these four areas and pass a final written exam that covers them.

In order to graduate, students must demonstrate, at a masters level, the following learning objectives:

1. Broad grasp of current scholarly understanding of natural resources and environmental sciences,
2. Understanding and application of the scientific process,
3. Skills in the analysis and interpretation of relevant scientific information, and
4. Proficiency in communicating scientific information

Progress of each student is evaluated through course performance, a written final examination, the capstone paper, and a final oral examination.

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## Graduate Degree Programs in Natural Resources and Environmental Sciences

- Graduate Majors:
  - Natural Resources and Environmental Sciences, MS (on-campus & online) (p. 1)
  - Natural Resources and Environmental Sciences, PhD (<http://catalog.illinois.edu/graduate/aces/natural-resources-environmental-sciences-phd/>)
- Joint Degree Program:
  - Natural Resources and Environmental Sciences, MS and Law, JD ([http://catalog.illinois.edu/graduate/aces\\_law/joint-degree-natural-resources-environmental-sciences-ms-law-jd/](http://catalog.illinois.edu/graduate/aces_law/joint-degree-natural-resources-environmental-sciences-ms-law-jd/))

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## Department of Natural Resources & Environmental Sciences

Department Head: Robert Schooley ([schooley@illinois.edu](mailto:schooley@illinois.edu))  
 Director of Graduate Programs: Jeffrey Matthews ([jmatthew@illinois.edu](mailto:jmatthew@illinois.edu))

Natural Resources & Environmental Sciences Department website (<http://nres.illinois.edu/>)

Natural Resources & Environmental Sciences Department faculty (<https://nres.illinois.edu/directory/>)

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## College of Agricultural, Consumer & Environmental Sciences

College of Agricultural, Consumer & Environmental Sciences (<https://aces.illinois.edu/>)

## Admissions

Department of Natural Resources & Environmental Sciences Overview of Admissions & Requirements (<https://nres.illinois.edu/graduate/apply/>)  
 Graduate College Admissions & Requirements (<https://grad.illinois.edu/admissions/apply/>)