

2015

NRES GRADUATE STUDENT HANDBOOK

Department of Natural Resources and Environmental Sciences
College of Agricultural, Consumer, and Environmental Sciences
University of Illinois at Urbana-Champaign

Welcome!

Welcome to the Department of Natural Resources and Environmental Sciences, where we highly value graduate education as the primary means to develop future leaders in environmental and natural resource sciences. You will study under faculty recognized nationally and internationally for their expertise, at a University that provides tremendous resources to facilitate your research and academic pursuits. Our campus provides some of the finest library resources available in the U.S., a wide array of laboratory and field facilities, and opportunities for cross-disciplinary training and collaboration. We expect you to make use of these resources as you progress through your graduate program, and you can expect NRES and the University to challenge and support you through your degree program.

The Department of Natural Resources and Environmental Sciences (NRES) is a broad and diverse department offering a wide range of options for graduate study, leading to both 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. Composed of approximately 20 faculty, 51 adjunct professors and affiliates, and 180 graduate students along with support staff. Approximately half of our graduate students are enrolled in our online M.S. program. The department includes the following specialization areas of research and teaching: agronomy/agroecology; ecology; ecosystem science; fish and wildlife; forest resources and management; global environmental change; human dimensions of natural resources and ecology; landscape ecology, microbial ecosystems; plant ecology, physiology, and genetics; quantitative and spatial methods; restoration ecology; soil science and conservation; sustainability; and water/biogeochemistry.

In addition to departmental faculty, NRES offers students the opportunity to work with a wide range of affiliates who are housed in the Prairie Research Institute, Illinois Natural History Survey, or one of several other related agencies. Many areas of our research are interdisciplinary across departments or include one or more areas of specialization. Graduate study in NRES involves developing an expertise through course work and research experience in one or more of these disciplines and using this knowledge to address and solve problems.

Well-equipped laboratory and greenhouse facilities are available for each field of specialization within the department, complemented by nearby experimental farms and natural areas. NRES faculty members are located primarily in Turner Hall on the second, fourth, and fifth floors. The Main Office, Department Head's Office, Business Office, Human Resources Office, and Student Services Center are all located on the fifth floor of Turner Hall. Faculty also have laboratories and offices in the National Soybean Research Center and other buildings.

It is important for graduate students to understand that the Department of Natural Resources and Environmental Sciences at the University of Illinois at Urbana-Champaign has duties and responsibilities for teaching, research, and extension. **Teaching** undergraduate and graduate students and preparing them to effectively assume leadership roles within the various professions of NRES is a primary responsibility. **Research** programs within the department are primarily designed to generate information needed by the public or private sector for solving

environmental problems, but are often equally critical in providing students the research experience that ultimately determines the direction of their thesis or dissertation. Many of these research efforts are applied in nature, while some may be designed to discover more fundamental information needed to further advance applied technology. Within the department, there are [outreach](#) programs to assist the public in applying new technologies generated through research. Each of the faculty, whether department, adjunct, or affiliate, has responsibilities in instruction, research and/or outreach, and most of them have responsibilities in more than one area. Graduate students are expected to be aware of and contribute to these areas as part of their professional development.

Welcome!	1
Graduate Education — What Is It?	6
Important Sources Concerning the Rules, Policies, and Codes	7
NRES Graduate Degrees	8
Master of Science.....	8
Thesis Option.....	8
Non-Thesis Option	9
Joint M.S.-J.D. Degree.....	10
Doctor of Philosophy	11
Medical Scholars Program	12
Affiliated Programs in Which NRES Students Can Enroll	12
Academic Administrative Information.....	13
Registering for Courses.....	13
Holds.....	13
Academic Deadlines.....	14
Full-Time Status	14
Courses Counting toward the Degree	14
Alternative Types of Course Registration and Enrollment	15
Alternative Options for Registration.....	15
Alternative Methods of Course Enrollment.....	15
Enrollment Verification.....	15
Grading System.....	15
Leaves from the Graduate Program	15
Requesting Exceptions to Graduate College Policy	16
Transfer of Credit.....	16

Courses Taken as a Non-Degree Seeking Student at University of Illinois at Urbana-Champaign.....	16
Transferring Courses between Programs at University of Illinois at UrbanaChampaign.....	16
Transferring Credit from another Institution.....	17
Annual Review of Academic Progress.....	17
Academic Standing.....	18
Problem Solving Procedures for Disputes and Conflicts	18
Financial Support.....	19
Sources and Awarding of Financial Support.....	19
Appointment Processing.....	20
Assistantship Work Required	21
Departmental Stipends	22
2014-2015 NRES Research Assistant and Teaching Assistant Stipends (per month).....	22
Expenses and Compensation.....	22
Other Resources	23
Milestones and Procedures	23
Milestones and Procedures for M.S. Thesis Students.....	23
M.S. Thesis Sequence of Program	23
Time Limit	25
Enrollment in NRES 500 Graduate Seminar	25
Committee Composition	26
Final Examination Procedures for the M.S. Thesis Option	26
Depositing the Thesis	26
Graduation.....	28
Milestones and Procedures for M.S. Non-Thesis Students	28

M.S. Non-Thesis Sequence of Program	28
Core Study Areas	29
Capstone Options.....	30
Time Limit.....	30
Final Examination Procedures for the M.S. Non-Thesis Option	30
Graduation.....	31
Milestones and Procedures for Ph.D. Students	31
Stages of the Doctoral Program	31
Ph.D. Sequence of Program.....	32
Time Limit.....	34
Enrollment in NRES 500 Graduate Seminar	34
Committee Composition	34
Preliminary Examination.....	34
Planning for the Preliminary Examination	35
Appointing the Preliminary Exam Committee	36
Chairing of the Oral Portion of the Exam.....	36
Preparation of Dissertation.....	37
Exit Seminar	38
Final Examination	39
Submission of the Dissertation.....	40
Graduation	41
Appendix A: Outline of Research Proposal for Program Milestones	41

Graduate Education — What Is It?

Graduate education provides the opportunity to gain a deeper knowledge of your subject area than was possible as an undergraduate. It also familiarizes you with the academic, research, and professional culture of your field of study. As a graduate student, you have opportunities for activities and experimentation that are unlikely to recur. We encourage you to take full advantage of this relatively short period of transition, as you become a teacher, researcher, extension specialist, consultant, or other related professional.

You alone can decide on the extent and quality of the educational and research experience gained from your graduate program. Your initiative, more than anything else, will dictate how much you will learn and how far and in what direction this training will take you. Unlike undergraduate studies, the graduate program is not based entirely on the ability of the student to earn good grades in organized course work. You are expected to develop some appreciation for the broad field of NRES, and this will be accomplished through attending seminars, talking with faculty and graduate students who work in other specialties and working closely with the faculty, staff, and other graduate students who work on research related to your interests. To help graduate students accomplish this, you must register for and attend the weekly NRES seminar series (NRES 500) each semester, except the one in which you are taking NRES 594 (which includes seminar attendance). What you get out of this experience in terms of preparation for a stimulating professional career will largely be determined by what you put into it. Always keep in mind that you can never really know what experiences will be valuable in the future. Consequently, the more complete and varied these experiences are, the better trained and qualified you will be.

The schedule of course work you will complete is developed by you and your Advisory Committee, rather than being specifically prescribed by our graduate program. Talk with your adviser and committee about your interests and career goals as you prepare your plan of study so that they can provide you the best advice possible on the courses you should take. Remember that a vital part of your graduate education is developing and conducting your research program. Bear in mind that as you proceed through your program of study and related activities, all of your interactions with others, particularly with your adviser and committee, are influencing your future letters of recommendation. The strength of these recommendations will depend upon you.

Each graduate student will typically specialize in a single area of academic research, but most faculty members have discipline training and backgrounds that enable them to provide guidance in more than one specific area. Students are encouraged to get to know and seek technical help from as many of the faculty as possible, whatever their specific area of interest.

Important Sources Concerning the Rules, Policies, and Codes

As graduate students, it is helpful to understand where you are in the institutional structure of the University. You are in the Graduate College and are governed by its policies and procedures. All tenure track faculty and some adjunct faculty/researchers are members of the Graduate Faculty of the Graduate College. You, the department, its faculty, and its undergraduate students are also members of the College of Agricultural, Consumer, and Environmental Sciences (ACES). All Colleges, Schools, and Units are under the directives put forth by the campus, namely the Provost's Office, the Board of Trustees of the University of Illinois, and the Illinois Board of Higher Education. This means you are governed by all University policies and the campus ethical code.

The purpose of this handbook is to provide information concerning departmental policies, timelines, and guidelines for the progression through your program of study. It outlines departmental expectations for student faculty roles and responsibilities and is intended to supplement the following items:

- A Handbook for Graduate Students and Advisers (The Graduate College), <http://catalog.illinois.edu/degree-programs/>
- Academic Staff Handbook, <http://www.ahr.uiuc.edu/ahrhandbook/default.htm>
- The current GEO contract, <http://www.ahr.illinois.edu/geo.pdf>
- University of Illinois Degree Programs, <http://catalog.illinois.edu/degree-programs/>
- University of Illinois Course Catalog, <http://catalog.illinois.edu/courses-of-instruction/>
- University Code of Conduct, <https://www.ethics.uillinois.edu/cms/one.aspx?portalId=1216&pageId=9238>
- Policies and Procedures on Academic Integrity in Research and Publication, <http://www.vpaa.uillinois.edu/policies/Integrity-Policy.pdf>
- Code of Policies and Regulations Applying to All Students, <http://admin.illinois.edu/policy/code/>

We hope your graduate experience is rewarding, and encourage you to direct any questions to the NRES Student Services Center, N-509 Turner Hall, (217) 333-5824, or to the Graduate College, 204 Coble Hall, (217) 333-0035. Below are the key contacts for the NRES Graduate Program:

- NRES Student Services Center (Karen Claus), (217) 333-5824, nres-ssc@illinois.edu
- Renee Gracon, Advising Specialist for the Online M.S. Program, (217) 333-7738, gracon1@illinois.edu
- Piper Hodson, Director of the NRES Online M.S. Program and Student Services Coordinator, (217) 244-5761, phodson@illinois.edu
- Jim Miller, NRES Graduate Coordinator, (217) 244-3896, jmillr@illinois.edu
- Jeff Brawn, NRES Department Head, (217) 333-2770, jbrawn@illinois.edu

NRES Graduate Degrees

The Department of Natural Resources and Environmental Sciences offers Master of Science degrees (Thesis, Non-Thesis and Joint M.S.-J.D.) and a Doctor of Philosophy degree, which can also be pursued as part of the Medical Scholars Program.

Master of Science

NRES offers a Thesis M.S. and a Non-Thesis M.S. option for graduate students. The Thesis M.S. option emphasizes the development of the skills necessary to create, plan, and carry out independent research. The Non-Thesis M.S. option offers preparation and career advancement for students with interests in the management, protection, and stewardship of natural resources and the environment.

NRES also offers two ways to pursue the M.S. degree: [on campus](#) and [online](#). Applicants to the NRES M.S. program on campus are admitted into the thesis option, while applicants to the online M.S. program are admitted into the non-thesis option. It is possible to change options once a student has begun the program.

All M.S. students must earn 32 credit hours, at least 12 of which must be 500-level credit. NRES 594 Professional Orientation (1 credit hour) is required of all NRES M.S. students in their first semester.

Thesis Option

Students pursuing the Thesis M.S. complete at least 20 hours of coursework and between 4 and 12 hours of NRES 599 Thesis Research. In order to graduate, students in the thesis option must complete, successfully defend, and deposit a research thesis that meets the standards of the Department of Natural Resources and Environmental Sciences and follows all formatting requirements of the Graduate College.

Required Courses:	Thesis option - Required Hours
NRES 594	1
NRES 501, 503, 505, or 507 (min/max applied toward degree):	0-8
Thesis Hours Required-- NRES 599 (min/max applied toward degree):	4-12
Total Hours	32

Minimum 500-level Hours Required Overall:	12
Other Requirements:*	Completion, defense, and deposit of thesis.
Minimum GPA:	3.0

Non-Thesis Option

Students pursuing the Non-Thesis M.S. complete at least 24 hours of coursework and between 3 and 8 hours of capstone credit. Students may choose one of the following options for their capstone experience:

- NRES 503 Capstone Research Project
- NRES 505 Capstone Internship Experience
- NRES 507 Capstone Group Research Project

In order to graduate, students in the non-thesis option must prepare and submit a report summarizing the capstone learning experience and perform satisfactorily on a written and oral final examination.

Required Courses:	Non-thesis option - Required Hours
NRES 594	1
NRES 501, 503, 505, or 507 (min/max applied toward degree):	3-8
Thesis Hours Required-- NRES 599 (min/max applied toward degree):	0
Total Hours	32
Minimum 500-level Hours Required Overall:	12

Other Requirements:*	Successful completion of the written final examination based on the four core study areas , preparation, oral presentation/exam, and approval of a capstone project report.
Minimum GPA:	3.0

* Important Notes for Students who entered the non-thesis option before fall 2012: You do not have the three capstone options, nor do you have to take the written final examination. You must complete an individual research project option (completed under NRES 501) and pass the oral final exam. If you want to pursue one of the other capstone options, you may [petition](#) to change your catalog year (contact Piper Hodson at phodson@illinois.edu for assistance).

Joint M.S.-J.D. Degree

Students interested in specializing in environmental or natural resource law should consider the joint M.S.-J.D. program, a unique program offered through collaboration between the College of Law and the Department of Natural Resources and Environmental Sciences. Students interested in pursuing the joint degree must apply to both the Graduate College and the College of Law, indicating this program on both applications.

Required Courses:	Thesis option - <u>Required Hours</u>	Non-thesis option - <u>Required Hours</u>
NRES 594	1	1
LAW 616	3-4	3-4
Two of LAW 617, 618, 621 or 622	11-13	11-13
NRES 501, 503, 505, or 507 (min/max applied toward degree):	0-8	1-8
Thesis Hours Required -- NRES 599 (min/max applied toward degree):	4-12	0
Total Hours in NRES	32	32
Minimum 500-level Hours Required Overall:	12	12
Law Requirements:*	90	90

Other Requirements:*	Completion, defense, and deposit of thesis.	Successful completion of the written final examination based on the four core study areas , preparation, oral presentation/exam, and approval of a capstone project report.
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	3.0

Doctor of Philosophy

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. 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.

Required Courses:	Required Hours
NRES 594 (need not be repeated if taken as an NRES M.S. student)	0-1
Graded Coursework (not including NRES 501, 512, or other independent study or readings course)	min 12
Thesis Hours Required – NRES 599 (min/max applied toward degree):	Max 52
Total Hours	64
Other Requirements:*	
Minimum GPA:	3.0

Master's Degree Required for Admission to PhD?	Yes
Qualifying Exam Required	No
Preliminary Exam Required	Yes
Final Exam/Dissertation Defense Required	Yes

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.

Affiliated Programs in Which NRES Students Can Enroll

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. Information is available at <http://pere.ace.illinois.edu/files/pereinfo.html>.

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. You can find more information on this program at <http://humandimensions.illinois.edu/>.

Specialization in Physiological and Molecular Plant Biology: The Department of Natural Resources and Environmental Sciences also participates in the multidepartmental, interdisciplinary program in physiological and molecular plant biology for doctoral students. The

program is flexible and provides the student with proficiency in several areas of plant physiology and molecular biology. Interested students should direct inquiries and applications to the program coordinator in the School of Integrative Biology. Please visit <http://www.med.illinois.edu/msp/> or contact the Medical Scholars Program at 217-333-8146 for details.

The Applied M.S. in Statistics is intended for students pursuing advanced degrees in other fields who wish to enhance their statistical knowledge and credentials by obtaining a degree in Statistics in addition to their primary field of study. Admission to this program requires that students be admitted for graduate studies in another field at UIUC. Students apply to the Applied M.S. program after they have begun their studies in NRES. For more information on the requirements and applications process, see <http://www.stat.illinois.edu/students/applmasters.shtml>. Please note that a student's adviser must grant permission for the pursuit of this degree.

Academic Administrative Information

All graduate students are governed by the academic policies of the Graduate College [Graduate Student Policies](#).

Registering for Courses

Students are responsible for their own registration and for ensuring the accuracy of their schedules. All students control their registration using the Enterprise Self-Service system at <https://apps.uillinois.edu/selfservice/index.html>. More information on this process can be found at <http://archive.registrar.illinois.edu/registration/procedures.html>.

Graduate College policies governing registration can be found at <http://www.grad.illinois.edu/gradhandbook/2/chapter2/registration>.

Holds

Holds can be placed on a student's record for several reasons. Most commonly, these include departmental deficiencies, immunization requirements, disciplinary reasons, financial encumbrance to the University, lack of academic progress, failure to submit transcripts, or low GPA. Holds may prohibit the student from making changes to their registration, from receiving a transcript, or from graduating. Holds will appear in the Registration section of a student's profile in Self-Service.

Students newly admitted to the NRES campus graduate programs will have an advising hold until the adviser notifies NRES Student Services that they have discussed course choices. Ask your adviser to e-mail nres-ssc@illinois.edu to request that the advising hold be removed.

Academic Deadlines

There are a variety of deadlines governing student registration activity. See the [Graduate College Academic Calendar](#) for the upcoming dates. The deadlines for students to add and drop classes vary depending on the length of the class (e.g. full semester or part of term). Full semester course deadlines are:

10th day of classes is the last day students can **add** a course without permission

End of the 8th week of classes is the last day students can **drop** a course without permission.

For instructions on how to make changes after these deadlines, see part three of <http://www.grad.illinois.edu/gradhandbook/2/chapter2/registration>.

Graduate College policy states that the last time to submit changes to a student's current term registration is 5:00 p.m. on [Reading Day](#).

Full-Time Status

NRES requirements for full-time enrollment are the same as the Graduate College policy, available at <http://www.grad.illinois.edu/gradhandbook/2/chapter2/course-loads>. There are several circumstances that can impact a student's requirements, so it is essential to become familiar with the policy, particularly for international students who are required to be enrolled full time by the **10th day** of classes.

In general, [full-time enrollment](#) in fall or spring semester requires 12 credit hours for students without an appointment or with a fellowship, and 8 credit hours for students with a waiver-generating assistantship. Students with a fellowship that is paid during the summer must be enrolled during the eight-week portion of the summer term.

Courses Counting toward the Degree

Only courses 400-level and above may count toward a graduate degree. Many graduate courses have rules governing how many hours can be counted toward a degree. Students should always carefully review these rules, which are included in the class description in the Class Schedule and Academic Catalog (<https://courses.illinois.edu/>) and/or this handbook. NRES has the following limits:

- No more than 2 hours of NRES 500 can count toward a degree, though students **are required** to enroll in NRES 500 each semester.
- No more than 4 hours of HDES 595 may count toward an NRES graduate degree.
- No more than 8 hours of NRES 501 may be counted toward an M.S. degree.
- No more than 8 hours of NRES 503, 505, **or**, 507 may be counted toward a degree.
- No more than 4 hours of NRES 512 may be counted toward a degree.
- No more than 12 hours of NRES 598 may be counted toward a degree.
- No more than 12 hours of NRES 599 may be counted toward an NRES M.S. degree.

Alternative Types of Course Registration and Enrollment

Alternative Options for Registration

Alternative options for registration include:

In absentia registration is designed for students who wish or need to remain registered, but plan to be studying or doing research for at least one semester at least 50 miles away from campus. While tuition remains the same, the student is assessed only the general fee.

Zero hours registration—Graduate students who have completed all degree requirements except the thesis or dissertation may consider registering for zero hours of research credit.

Graduate College (GC) 599 is a zero credit hour registration option for advanced doctoral students who do not have any financial assistance (such as an assistantship, fellowship, etc.) that would cover his or her tuition and fees for the semester but must maintain fulltime enrollment to defer student loans.

More information on these options and their consequences can be found in section four at <http://www.grad.illinois.edu/gradhandbook/2/chapter2/registration>.

Alternative Methods of Course Enrollment

There may be circumstances in which a student does not wish to take a course for a letter grade. In these cases, students have two options:

Audit—the student is only a listener, not a participant, in the course (<http://www.grad.illinois.edu/gradhandbook/2/chapter2/registration>).

Credit-No Credit is a permanent notation on the academic record that a student may request, with the adviser's approval (<http://www.grad.illinois.edu/gradhandbook/2/chapter2/registration>).

Enrollment Verification

Students requiring enrollment verification for any reason (such as student loan deferment, employer reimbursement, insurance, etc.) must use the National Student Clearinghouse, accessed at <http://www.registrar.illinois.edu/transcripts/verify.html>, after the 10th day of classes. If you have a form that requests a signature, you print and attach the verification from the Clearinghouse in place of the signature.

Grading System

The explanation of grades, grade symbols, and grade point average calculation is available at <https://registrar.illinois.edu/explanation-of-grades>.

Leaves from the Graduate Program

A student needing to interrupt his or her graduate studies should make arrangements with the adviser and department prior to departure. The student should talk with the adviser to clarify the

anticipated length of the leave and any conditions the adviser requires for re-entry and complete the [Leave of Absence Form](#). That form must be submitted to NRES Student Services for processing. There are significant ramifications of academic leaves for both domestic and international students, so students must review Part II – Graduate Student Policies, Chapter 2: Section B. Registration

at <http://www.grad.illinois.edu/gradhandbook/2/chapter2/registration#LeaveofAbsence>.

Requesting Exceptions to Graduate College Policy

If, for any reason, a graduate student needs to ask for an exception to a policy of the Graduate College, that request must be made using the [Graduate Student Request Form \(petition\)](#).

Transfer of Credit

Graduate College policy governs the transfer of credit from non-degree courses taken here at Illinois, courses taken in another program here at Illinois, and courses taken elsewhere. Those rules can be found at <http://www.grad.illinois.edu/gradhandbook/2/chapter3/transfer-credit>

All require the completion of the Curriculum Change/Transfer of Credit form. Instructions and a link to the form can be found at <http://www.grad.illinois.edu/gsas/curriculum-transfer>.

In all cases, credit will be considered for transfer only if it is credit: that has not previously been applied toward a degree or a transcribed certificate, that is graded graduate level course work from an accredited institution, for which the student has achieved a grade of B or better, and that would not be more than the time allowed to complete the degree at the time of degree conferral (see <http://www.grad.illinois.edu/gradhandbook/2/chapter6/time-limits>).

Courses Taken as a Non-Degree Seeking Student at University of Illinois at Urbana-Champaign

Students who have earned graduate credit while enrolled as a non-degree student at the University of Illinois at Urbana-Champaign may request up to 12 hours to be counted toward their degree program. These [requests](#) may be submitted after the student receives their notice of admission. This is in addition to the 12 hours of graduate credit that may be requested to transfer from another institution.

Transferring Courses between Programs at University of Illinois at Urbana Champaign

To request a transfer of credit from one program to another within the Graduate College, a student should submit a [Curriculum Change/Transfer of Credit form](#). For these requests, there is no limit on the number of hours that a student may request be transferred. This requests the approval of both the academic program in which the student was enrolled when taking the course and the academic program to which the student wishes to transfer it.

Transferring Credit from another Institution

Graduate students may request transfer of credit from outside the University of Illinois at Urbana-Champaign to be counted toward a graduate degree, but it is limited to a maximum of 12 semester hours. The credit must meet the four requirements listed above. Most transfer credit will be reflected on the transcript without course titles and grades.

See <http://www.grad.illinois.edu/gsas/curriculum-transfer> for exceptions.

A student must have successfully completed at least 8 semester hours of graded graduate work at the University of Illinois at Urbana-Champaign before submitting a request for transfer of credit. To request transfer of credit from another institution, a student should submit the appropriate [form](#), accompanied by new official transcripts, and validation by specialists in the area of the course work in the student's department that the course work is both applicable and of an appropriate level of difficulty.

Annual Review of Academic Progress

In the spring semester of each academic year, graduate students in NRES on campus programs are required to complete an annual progress review. The annual review is designed to assist students in maintaining progress toward completing their degree requirements. This information will also be used to report on departmental activities and as a resource to identify students for scholarships, awards, and other recognitions. A key component of the review process involves the communication between faculty advisers and their graduate students to address previous progress and future expectations in their graduate career.

It is extremely important that students take this process seriously and report their accomplishments accurately and with adequate detail. The Graduate Coordinator, Graduate Admissions and Policy Committee, and NRES Student Services use these reviews for identifying students to be nominated for awards and to report on a number of important measures of graduate education.

The process is as follows: The NRES Student Services Center emails instructions for the annual review to all graduate students at the beginning of the spring semester. Students complete the student section of the review. After the major adviser receives the student's self-evaluation, he or she provides an evaluation of the student's progress. It is recommended that advisers review this document with their students in person. The Graduate Coordinator will review these documents and give the student access to the completed review. The Annual Graduate Student Review becomes part of the graduate student file in the NRES Student Services Center. If students have any questions or concerns regarding the adviser's comments, they are encouraged to discuss these with their adviser. Students are welcome to request a meeting with the Graduate Coordinator or a member of the Graduate Admissions and Policy Committee to discuss the feedback received.

Academic Standing

All NRES graduate students must maintain a [minimum program grade point average \(GPA\)](#) of 3.0 in order to have the degree certified and to graduate. The Graduate College monitors minimum program cumulative GPA, and failure to meet this requirement in any term can result in the student being placed on probation or dismissed from the Graduate College. Other factors that determine satisfactory academic progress are monitored by NRES Student Services, and failure to meet these requirements can result in a recommendation to the Graduate College that the student be placed on probation or dismissed from the Graduate College.

See <http://www.grad.illinois.edu/gradhandbook/2/chapter3/academic-standing#AcademicStanding> for full details on academic standing, probation, limited status admission, and dismissal.

Problem Solving Procedures for Disputes and Conflicts

Students and faculty in NRES are a diverse group whose personalities, experiences, activities, and personal goals vary widely. Most conflicts and problems that arise in this environment can be resolved without invoking formal grievance procedures; such informal resolution, where possible, is generally best for all concerned.

There are several sources of assistance for pursuing an informal resolution of the dispute. Students may seek advice about how to address their situation informally from their faculty advisers, the NRES Student Services Coordinator, the NRES Graduate Coordinator, the NRES Department Head, the Graduate College Academic Services office, the Office of the Dean of Students, and the Office of International Student Affairs. It is generally best to begin with the Graduate Coordinator or Student Services Coordinator to explore which resources for informal resolution would be most appropriate.

At times, however, disputes may not be resolved through informal efforts and employment of the Graduate College Grievance Procedure may be necessary. [The Graduate College Policy and Procedures on Grievances by Graduate Students](#) is found at <http://www.grad.illinois.edu/gradhandbook/2/chapter9/academic-conflict#GraduateCollegePolicy>.

The Department of NRES follows all problem solving/grievance procedures established and approved by the Graduate College and University. Prior to initiating formal procedures, please contact the NRES Graduate Coordinator for consultation. All conversations will be held in the strictest confidence.

In addressing a dispute/conflict, the following documents will be useful:

- *Graduate College Handbook*, <http://www.grad.illinois.edu/gradhandbook>

- *Graduate College Policy and Procedures on Grievances by Graduate Students*, <http://www.grad.illinois.edu/gradhandbook/2/chapter9/academic-conflict#GraduateCollegePolicy>
- *NRES Graduate Handbook*, <http://nres.illinois.edu/graduate/handbook>
- *Code on Campus Affairs and Handbook of Policies and Regulations Applying to All Students*, <http://studentcode.illinois.edu/>

Financial Support

NRES students pursuing the M.S. Thesis option and the Ph.D. typically have a research assistant, teaching assistant, or fellowship appointment.

Sources and Awarding of Financial Support

Several sources of financial support are available within the department for recruiting high quality students: research assistantships supported by federal, state, or private grant funds made available to NRES faculty; competitive research assistantships supported by NRES are offered for excellent and underrepresented students. Additional support includes teaching assistantships, University Fellowships, the Jonathan Baldwin Turner Graduate Fellowship Program, and the Odell Graduate Fellowship in Soil Science, the Spaeth & Boggess Graduate Fellowship in Forestry, Federal Work Study programs, and waivers of tuition and fees. The Graduate College Fellowship Office also administers competitive fellowships and grants to currently enrolled and prospective graduate students. Check the requirements for these awards at the Graduate College Fellowship Office web site, <http://grad.illinois.edu/fellowships>.

Assistantship appointments are made on a percentage basis. All 25% to 67% appointments as research or teaching assistants for at least three-quarters of the academic term, as well as all fellowships of at least \$5,000 per semester, provide a stipend and tuition and fee waiver. A student who resigns an appointment even one day before the 91st day of the semester (for spring and fall, see the [Graduate Policy](#) for summer information) will lose the tuition and fee waiver, becoming responsible for paying all tuition and fees.

See <http://www.grad.illinois.edu/gradhandbook/2/chapter7> for more information on policy governing tuition waivers.

Several graduate scholarships are also annually awarded to continuing students in the department. The call for applications goes out in the spring to continuing students. More information about each of the graduate scholarships we award is available on the NRES website (<http://nres.illinois.edu/graduate/scholarships>).

Departmental financial support is granted on a competitive basis at the time of admission. Using the application for admission, 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. Information about the current availability of financial aid can be obtained from the Graduate Coordinator or, in the case of research and teaching assistantships, directly from faculty members working in the area of interest. Continuing students can apply for some sources of funding, such as teaching assistantships. In these cases, a call for application is emailed to all NRES graduate students.

In addition, the department supports the NRES Educational Opportunity Travel Grants to continuing NRES students. This program of support is for student travel that enhances their graduate training and career opportunities. Applications for financial support can include attendance at professional conferences, workshops, events, or for training to learn research techniques at other laboratories. Two competitions are held, one each in the spring and fall semesters, following email announcement.

In the awarding of financial support for graduate study, there are always many more applicants than support funds. Consequently, a careful evaluation of each applicant is made, and offers are extended to those candidates who show the greatest potential for graduate study and for the use of the knowledge gained. The department does not assume the responsibility for supporting students who agree to enter the program at their own expense. Acceptance for graduate study in the department is not considered to be a commitment for present or future financial support, unless specifically stated in the acceptance letter.

Students who qualify for federal work-study must notify the NRES Human Resources Manager in order to take advantage of the program. In order to qualify, you must complete the FAFSA form in the winter, and be notified by the Office of Student Financial Aid that you qualify for this funding source.

Appointment Processing

Because the first day of the pay period is August 16th, students should plan to begin working on that date. If that day is a weekend, students should discuss the actual start date with their faculty adviser. Additionally, students may not work before their paperwork is completed. For these reasons, new students or students on new appointments who will be working as research or teaching assistants should report to the NRES Human Resources Manager as soon as they arrive on campus (**no later than August 15th**) in order to fill out the necessary forms and to avoid a delay in receiving their first paycheck. Students who are advised by adjunct or affiliate faculty will need to see the Human Resources Manager in their employing department. Students on fellowships need to contact the unit that awarded the fellowship. For JBT and Graduate College fellowships, that unit will be the Graduate College Fellowship Office (333-0036). Both assistantship appointments and fellowships must be accepted by signing and returning an offer letter.

International students are required to have applied for a social security number before beginning employment. The [International Student and Scholar Services](#) (ISSS) office has streamlined this process so that it can be done on campus and usually within a week. Students must make this a priority once they arrive on campus.

Continuing students should check with their adviser to verify that their appointment will be extended into the next semester, summer, or the following academic year, depending on individual circumstances. A reminder from the student may be useful, since advisers are required to renew graduate appointments every semester. Summer percentages are not always the same as fall and spring semesters, and some students work hourly during the summer, so your situation may vary. If you have questions about your appointment, see the NRES Human Resources Manager. Additionally, RA and TA funding is provided by your adviser, unless you have been awarded a fellowship or merit-based assistantship. If you change advisers, your new adviser will become responsible for supporting your program of study.

Pay periods begin on August 16 for the fall term and on January 1 for the spring term. All assistants should be on campus and have their appointment processing done by these dates. Arriving late or not finishing processing by these dates will result in late paychecks and/or paychecks for less than a complete month for the first pay period. All graduate assistants are paid on the 16th day of each month via direct deposit. If the 16th falls on a weekend, pay is deposited on the preceding Friday. Fall appointments are from 8/16 to 12/31. Spring appointments are from 1/1 to 5/15, and summer appointments are from 5/16 to 7/15. Once again, regular graduate assistants are 11-month appointments and are not paid in the month of August. As all assistants are paid by direct deposit, the only way to view your earnings statement is by using the [NESSIE](#) system.

Assistantship Work Required

Research and teaching assistants are expected to work part-time for their assistantship.

Depending on the nature of the research assistantship, this service can be exclusive of their thesis research. However, it is virtually impossible to determine absolutely the number of hours of work per week expected of most assistants. For instance, one cannot be specific about the time one devotes to a research assistantship that is tied to thesis research. The specific nature of research assistant service is determined by the student's major adviser. Students should expect that research assistant commitments and thesis research together will represent *at least* a full time commitment. Students who cannot make a full-time commitment to their graduate studies (particularly their thesis research) will not make timely progress toward completion of their degree. Support for students not fulfilling responsibilities may be terminated.

Teaching assistants are selected by the faculty member teaching the course assigned an assistant. Inquiries about position availability should be made to them directly. When seeking assistantships outside of NRES, students should refer to the Assistantship Clearinghouse that lists hourly positions and assistantships available on campus

(<http://www.grad.illinois.edu/clearinghouse/>). All teaching assistants in NRES are required to successfully complete the University's two-day Graduate Academy for College Teaching, which occurs **before the semester begins**, as well as one 90-minute Microteaching session. In addition, international students are required to earn a score of 50 or better on the SPEAK test in advance of agreeing to TA. The SPEAK test is only offered in October and March. The NRES Student Services Center sends an email announcing the SPEAK Test and the Graduate Academy for

College Teaching training as soon as it becomes available each semester. E-mail nres-ssc@illinois.edu for more information.

Departmental Stipends

The Department of NRES maintains minimum stipend rates for assistants. Teaching and research assistants are paid at the same rates. An assistant may be appointed for 13%, 25%, 50%, 67%, or 100% time. However, 50% time appointments are considered standard. The monthly rate table for 2015-2016 NRES RA and TA stipends is shown below. These rates are subject to change annually as the University pay rates increase. Note that as PhD students pass their preliminary exam, their pay rate increases. The “Level 2” rate will be applied the first August 16 after the student has passed the preliminary exam, as the department cannot give students midyear raises. Graduate assistants are normally appointed by the semester for a 9- or 11-month appointment. The monthly stipend rate below is then paid for each month in which the assistant is appointed. Students with a 9-month appointment are not paid in June, July, or August. Students on an 11-month appointment are not paid in August.

2015-2016 NRES Research Assistant and Teaching Assistant Stipends (per month)

% Appointment	M.S.	Ph.D. Level 1 (before Prelim)	Ph.D. Level 2 (after passing Prelim)
67%	\$2,528.57	\$2,681.91	\$2,863.69
50%	\$1,887.00	\$2,001.42	\$2,137.08
25%	\$ 943.50	\$1,000.71	\$1,068.54

Expenses and Compensation

The [Estimated Expenses and Compensation Table](#) represents anticipated expenses of graduate study for most recent academic year for a new, full time student and the most common compensation package. (All rates are variable and subject to change.) Tuition rates can be found at <http://www.registrar.illinois.edu/tuition-fee-rates>, and fees are provided at <https://registrar.illinois.edu/fee-info>. The Campus Tuition Waiver Policy is available at <https://www.pb.uillinois.edu/dr/tuitionpolicy.cfm>.

Other Resources

- Tuition Waiver Policy (<http://www.grad.illinois.edu/gradhandbook/2/chapter7/tuition-waivers>)
- Most Recent Graduate Employees' Organization Contract (<http://www.ahr.illinois.edu/geo.pdf>)
- Taxability of Tuition and Fee Waivers (<http://www.grad.illinois.edu/gradhandbook/2/chapter8/fellowship-traineeship#TaxonWaivers>)
- Taxability of Fellowships (<http://www.grad.illinois.edu/fellowship/fellows#tax-info>)
- Health Insurance (<http://si.illinois.edu/>)
- Injured on the Job? (<https://www.obfs.uillinois.edu/bfpp/section-6-insurance/report-claim-for-personal-injury>)

Milestones and Procedures

This section explains the milestones, deadlines, and procedures that are part of the sequence of each of our graduate programs. If you have questions about academic requirements, see the previous section, [NRES Graduate Degrees](#).

Milestones and Procedures for M.S. Thesis Students

M.S. Thesis Sequence of Program

Before Admission

- Applicant must identify a willing adviser.
- If NRES decides to admit the applicant, the Department recommends admission to the Graduate College.

After Admission

- Accept admission.
- Complete all of the tasks on the Graduate College Checklist for New Students (<http://www.grad.illinois.edu/quick-guide>).
- Accept appointment, if offered.
- Complete employment paperwork.
- Discuss course selection with adviser and request that he or she notify Student Services that the advising hold may be removed (by e-mail to nres-ssc@illinois.edu).
- Enroll in courses.
- Attend the NRES Graduate Student Orientation that, typically, occurs the Friday before classes begin in August.
- **Complete the Annual Review of Academic Progress** each spring.

In the First Semester

- **Successfully complete NRES 594**, including attending the NRES seminar throughout the semester to gain exposure to research of interest to the NRES department.
See <http://nres.illinois.edu/calendar/seminar> for the schedule.
- **Turn in the adviser approved Plan of Study** the end of the semester (December 15th for fall; May 15th for spring) to NRES Student Services. Students whose first semester is summer must meet the fall deadline.
- **Appoint the Advisory Committee.**
- During this semester, students should begin drafting their research proposals, which are due at the end of the second semester.

In the Second Semester

- Register for NRES 500 every semester (for either 0 or 1 hour).
- **Meet with the Advisory Committee** and receive their feedback on the plan of study and research proposal.
- Revise plan of study and research proposal to meet the requirements of the committee.
- If your research involves human subjects, begin process of seeking approval from the Institutional Review Board (IRB) <http://irb.illinois.edu/>.
- This is a good time to begin taking advantage of Graduate College Grant Writing Workshops (<http://www.grad.illinois.edu/extfellowships/workshops>) and Proposal Writing Resources (<http://www.grad.illinois.edu/extfellowships/resources>).
- **Turn in the Plan of Study and Research Proposal, both approved by the full Advisory Committee**, to NRES Student Services by the end of the semester (December 15th for fall; May 15th for spring). See [Appendix A](#) for guidance on the Research Proposal.

In Subsequent Semesters

- Register for NRES 500 every semester (for either 0 or 1 hour).
- Complete coursework.
- Pursue funding for research (<http://nres.illinois.edu/graduate/funding-your-research>).
- Conduct thesis research.
- Consult the Graduate College Thesis information (<http://www.grad.illinois.edu/thesis/development>) to become familiar with copyright issues and format requirements.
- Draft and revise manuscripts that will become the thesis.
- Submit manuscripts for publication.
- Submit paper and/or poster proposals to professional meetings.
- **Complete the Annual Review of Academic Progress** each spring.

As the Thesis Nears Completion

- E-mail nres-ssc@illinois.edu to request instructions and forms.
- Check the Graduate College Thesis and Dissertation deadlines at <http://illinois.edu/calendar/list/3259>.
- Add of name to pending degree list.
- Submission of thesis/project to Examination Committee.
- Schedule final examination and advertise thesis seminar.
- Thesis seminar, followed by comprehensive exam and defense of thesis/project.
- Departmental format review by the Graduate Coordinator.
- Submit thesis to NRES Student Services Center for department head approval.
- Submission of thesis to the Graduate College.
- Completion of NRES Exit Survey.
- Return of all office and lab keys to the area secretary.
- Graduation.

Time Limit

The Graduate College requires M.S. candidates to complete all requirements for the degree within five calendar years after their first registration; however, within NRES there is an expectation that M.S. students who are funded (through assistantship or fellowship) complete the M.S. within 3 calendar years. Upon entry in the Graduate College, you are assigned an Expected Graduation Date (EGD), which is the last term you are allowed to enroll. If you want to enroll after your EGD, you will have to [petition](#) the Graduate College for approval of a time extension and for the use of coursework older than five years. Please note that M.S. students are **not** required to be enrolled during the semester they take the final examination, deposit the thesis, or graduate.

Enrollment in NRES 500 Graduate Seminar

NRES requires graduate students to enroll in NRES 500 Graduate Seminar each semester, with the exception of the semester in which they take NRES 594 (which requires seminar attendance). Students have the option of enrolling for 0 or 1 hour, which does count toward full-time enrollment. No more than 2 hours of NRES 500 can be counted toward the degree. Because this requirement is an effort to enhance the professional development of graduate students by exposing them to academic research and methods outside of their immediate experience and creating an important networking opportunity within the department, exceptions to this requirement will very rarely be granted. Any student wanting to request an exception to this requirement must e-mail a justification for the request to nres-ssc@illinois.edu.

Committee Composition

The Advisory Committee for an M.S. Thesis student must have three to five members, at least one of whom must be a tenured or tenure track faculty member whose primary appointment is in the Department of Natural Resources and Environmental Sciences. A list of those faculty members is found at <http://nres.illinois.edu/directory/faculty>.

The adviser may request the inclusion of a voting member who is not employed by the University of Illinois at Urbana-Champaign by e-mailing the Graduate Coordinator with a justification and curriculum vitae for the individual.

Final Examination Procedures for the M.S. Thesis Option

For the thesis based M.S. degree, the student's final examination is held after submission and approval of the thesis by the major adviser, and must involve an open seminar. This seminar will occur immediately before the final exam, will be advertised two weeks in advance, and will be open to the public. The M.S. Examining Committee for students completing a thesis consists of the student's Advisory Committee with the major professor as chairperson. The Examination Committee will determine the scope and format of the final examination in advance. To clarify committee expectations, the student is urged to visit with each committee member prior to the examination. The M.S. Exam Committee Appointment form must be submitted to Student Services **4 weeks prior** to your exam for approval from the Graduate Coordinator.

At the conclusion of the examination, the committee will complete the Final Examination for the Master's Degree form. This form reports the results of the examination and is available at the NRES Student Services Center (SSC). The form, signed by all the Examination Committee members, will then be submitted to the SSC for inclusion in the student's file. The possible outcomes of the M.S. examination are pass, fail (and elimination from the program), or incomplete. If the student receives an incomplete, the M.S. examination must be repeated within three months. The final examination shall be taken during the final semester the student is enrolled as an M.S. candidate.

Depositing the Thesis

Students should refer to the Thesis Checklist for Master's Students <http://www.grad.illinois.edu/sites/default/files/pdfs/masterschecklist.pdf>.

During the final semester, students are responsible for ensuring that their names have been added to the degree list by using [Enterprise Self-Service](#).

All of the following documents will be required when depositing a thesis and can be sent to you by the NRES Student Services Center:

- NRES Graduate Student Exit Survey (NRES Student Services)
- M.S. Exam Committee Appointment Form (NRES Student Services)

- One signed Thesis Approval Form (TAF): (<http://www.grad.illinois.edu/sites/default/files/pdfs/masterstda.pdf>)
- Data Signature Form (NRES Student Services)

Final Examination for the Master's Degree Form (NRES Student Services)

When the completing a M.S. thesis, the student will be required to write up the research in a format acceptable to the Graduate College. Students should be sure to consult the [Graduate College Thesis Requirements](#). The [Thesis Checklist for Master's Students](#) is also a useful resource. If the research findings have been published, please note that the Department of NRES requires thesis formatting as follows:

- A one-page single paragraph abstract summarizing the entire work must appear at the beginning of the document. This should summarize how the research fits into the broader knowledge of the topic area. Part of this information may, but is not required, to be presented in a separate introductory chapter.
- An appropriate literature review must be included.
- Any data not reported within the body of the thesis must be included in appendices.
- Theses with multiple chapters must provide a summary that integrates the scope of their experiments into a broader research theme.

For thesis-based M.S., well in advance of the final exam, a draft of the thesis is to be submitted to the student's adviser. The adviser will review the document and make appropriate suggestions in a timely manner. Copies of the revised draft are then provided to the members of the Examining Committee a minimum of two weeks in advance of the date of the exam. The student will then defend the research at the final examination. The Final Examination for the Master's Degree form must be completed and submitted to the Student Services Center immediately following the exam by the Committee Chair. Providing the student passes the examination and all thesis revisions are complete, the student should have the members of the Examining Committee affix their signatures the Thesis Approval form (TAF).

The student will then incorporate suggestions/recommendations for change from the Examination Committee into the document and resubmit it to the adviser and/or committee members as agreed upon at the completion of the exam. Students completing a thesis must then submit a Word Document of the thesis along with the committee signed Thesis Approval Form (TAF) to NRES Student Services Center for department format review.

The Thesis Approval Form (TAF) and thesis will be reviewed by the Director of Graduate Studies before being given to the Department Head for final approval. **The department requires a minimum two weeks** for approvals and format review by the student services office. Students will be notified of any changes needed before Departmental Approval is granted. It is *strongly* recommended that students use reference management software such as Endnote or RefWorks to format citations and the bibliography. While no specific citation style is required, consistent citation style is required. Use of reference management software ensures consistent

style and reduces the chances that the thesis will be returned due to formatting issues. The University will officially confer degrees after approval by the Board of Trustees of the University of Illinois. M.S. degrees are conferred in December, May, and August of each year. Diplomas will be mailed to graduates at the permanent address on record or the address on record in Enterprise Self-Service approximately six weeks later.

M.S. students, in consultation with their major adviser, are strongly encouraged to prepare one or more manuscripts for scientific publication, describing their research and results. The major adviser will provide guidance regarding the type of publication and the appropriate journal.

Graduation

Graduate degrees are conferred in May, August, or December. Consult the Graduate College Thesis and Dissertation Calendar (<http://illinois.edu/calendar/list/3259>) for dates and deadlines for the specific term during which you plan to graduate. The only graduation ceremony at the University of Illinois is held in May, though the College of ACES also hosts a December graduation reception. Students graduating in August or December will be invited to participate in graduation the following May, when two ceremonies are held. The campus-wide ceremony is held at the Assembly Hall. A second ceremony is held by the College of ACES, also in the Assembly Hall. Graduation tickets are sent by the College of ACES Placement office, directly to all those on the graduation list.

Milestones and Procedures for M.S. Non-Thesis Students

M.S. Non-Thesis Sequence of Program

Before Admission

- If NRES decides to admit the applicant, the Department recommends admission to the Graduate College.

After Admission

- Accept admission.
- Complete all of the tasks on the Graduate College Checklist for New Students (<http://www.grad.illinois.edu/quick-guide>).
- Discuss course selection with Advising Specialist or Adviser.
- Enroll in courses.

In the First Semester

- **Successfully complete NRES 594.**
- Enrollment in NRES 500 Seminar is recommended to gain exposure to the research of interest to the NRES department. See <http://nres.illinois.edu/calendar/seminar> for the schedule.

- **Turn in the adviser approved Plan of Study** the end of the semester (December 15th for fall; May 15th for spring) to NRES Student Services (nres-ssc@illinois.edu). Students whose first semester is summer must meet the fall deadline.
- During this semester, students should begin considering the capstone options and write a statement of capstone interest.

In Subsequent Semesters

- Complete coursework.
- Make final selection of capstone option before completing 20 hours toward the degree.
- Produce a research proposal or Graduate Internship Approval Form that earns the approval of the Program Director in order to receive permission to enroll in capstone credit.
- All NRES graduate students are encouraged to submit manuscripts for publication and paper and/or poster proposals to professional meetings.
- **Complete the Annual Review of Academic Progress each spring.**

As the Capstone Project Nears Completion

- E-mail nres-ssc@illinois.edu to request instructions and forms.
- Check the capstone deadlines at <https://illinois.edu/calendar/list/4329>.
- Add of name to pending degree list.
- Schedule final examination.
- Request and completion of written final examination
- Submission of capstone project to Examination Committee.
- Oral final examination.
- Revise of capstone project.
- Submit committee approved capstone project to NRES Student Services Center.
- Completion of NRES Exit Survey.
- Graduation.

Core Study Areas

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 should consult with their adviser on course choices.

Capstone Options

There are three options for completing the capstone requirement for the non-thesis M.S. Those options are:

- Capstone Individual Research Project (NRES 503)
- Capstone Internship Experience (NRES 505)
- Capstone Group Research Project (NRES 507)

More details about these options and examples can be found online at <http://nres.illinois.edu/online-program/non-thesis>

Through the written product(s) of one of these options, a written final examination, and a final oral examination, each student is evaluated on the learning objectives of the program.

In order to graduate, students must demonstrate across the four [core study areas](#):

- Understanding and application of the scientific process,
- Skills in the analysis and interpretation of relevant scientific information, and
- Proficiency in communicating scientific information

Time Limit

The Graduate College requires M.S. candidates to complete all requirements for the degree within five calendar years after their first registration; however, within NRES there is an expectation that M.S. students who are funded (through assistantship or fellowship) complete the M.S. within 3 calendar years. Upon entry in the Graduate College, you are assigned an Expected Graduation Date (EGD), which is the last term you are allowed to enroll. If you want to enroll after your EGD, you will have to [petition](#) the Graduate College for approval of a time extension and for the use of coursework older than five years. Please note that M.S. students are **not** required to be enrolled during the semester they take the final examination, deposit the thesis, or graduate.

Final Examination Procedures for the M.S. Non-Thesis Option

All students completing the Non-Thesis M.S. must pass written and oral final examinations. The final examination for all non-thesis option M.S. students will be administered by a committee consisting of three NRES faculty members. The committee members will be assigned by the department head on a rotating basis.

There are two parts to the written evaluation. The Capstone writing assignment will serve as the first part of the written evaluation and must be approved by the Research Advisor or the Internship Advisor before being provided to the committee at least two weeks in advance of the scheduled oral examination. The second part of the written evaluation will be a comprehensive

written examination that will consist of questions from each of the four recommended [core study areas](#). For students admitted prior to January 1, 2012 who chose to [petition](#) to graduate under the new degree requirements, the final exam questions will be drawn from completed NRES online MS coursework.

The distribution of the written exam will be scheduled twice a year on designated dates (one in late summer/early fall and the other in winter/early spring). Students have one week to complete the written exam. Students may access lecture notes, the scientific literature, and textbooks to respond to the examination questions. They are to work independently on this assignment, with no discussion or consultation with any other person. Students will be required to type their responses.

The oral examination will consist of a brief student presentation (~ 20 min) followed by a question and answer session that may cover both the capstone project and the written final examination. Students should plan for the entire oral examination process to take approximately 2 ½ hours. The department encourages students to complete the oral examination on campus, however, under certain circumstances arrangements can be made to complete the oral examination virtually.

Graduation

Graduate degrees are conferred in May, August, or December. Consult the Graduate College Thesis and Dissertation Calendar (<http://illinois.edu/calendar/list/3259>) for dates and deadlines for the specific term during which you plan to graduate. The only graduation ceremony at the University of Illinois is held in May, though the College of ACES also hosts a December graduation reception. Students graduating in August or December will be invited to participate in graduation the following May, when two ceremonies are held. The campus-wide ceremony is held at the Assembly Hall. A second ceremony is held by the College of ACES, also in the Assembly Hall. Graduation tickets are sent by the College of ACES Placement office, directly to all those on the graduation list.

Milestones and Procedures for Ph.D. Students

Stages of the Doctoral Program

The doctoral degree is commonly thought of in three phases or stages of progress, with each stage having unique components and milestones. These are described at <http://www.grad.illinois.edu/gradhandbook/2/chapter6/doctoral-stages>. The majority of NRES Ph.D. students have already earned a master's degree and enter the program in Stage II. The student advances to Stage III after passing the Preliminary Examination. In the rare case in which a student enters the Ph.D. program without completing a master's degree, he or she is in Stage I until passing a qualifying examination. For NRES Ph.D. students in Stage I, writing and rigorously defending a research proposal in the third semester will serve as the qualifying exam.

Ph.D. Sequence of Program

Before Admission

- Applicant must identify a willing adviser.
- If NRES decides to admit the applicant, the Department recommends admission to the Graduate College.

After Admission

- Accept admission.
- Complete all of the tasks on the Graduate College Checklist for New Students (<http://www.grad.illinois.edu/quick-guide>).
- Accept appointment, if offered.
- Complete employment paperwork.
- Discuss course selection with adviser and request that he or she notify NRES Student Services that the advising hold may be removed (by e-mail to nres-ssc@illinois.edu).
- Enroll in courses.
- Attend the NRES Graduate Student Orientation that occurs the week (usually Friday) before classes begin in August.
- **Complete the Annual Review of Academic Progress each spring.**

In the First Semester

- **Successfully complete NRES 594**, including attending the NRES seminar throughout the semester to gain exposure to the research of interest to the NRES department. See <http://nres.illinois.edu/calendar/seminar> for the schedule. If NRES 594 was completed as an M.S. student, then enrollment in NRES 500 (for either 0 or 1 hour) is required.
- **Appoint the Advisory Committee.**
- During this semester, students should begin drafting their research proposals, which are due at the end of the third semester.
- *In the Second Semester*
- **Register for NRES 500** every semester (for either 0 or 1 hour).
- **Turn in the adviser approved Plan of Study** the end of the semester (December 15th for fall; May 15th for spring) to NRES Student Services. Students whose first semester is summer must meet the spring deadline.

In the Third Semester

- **Meet with the Advisory Committee** and receive their feedback on the plan of study and draft research proposal.
- Revise plan of study and research proposal to meet the requirements of the committee.
- If your research involves human subjects, begin process of seeking approval from the Institutional Review Board (IRB) <http://irb.illinois.edu/>.

- This is a good time to begin taking advantage of Graduate College Grant Writing Workshops (<http://www.grad.illinois.edu/extfellowships/workshops>) and Proposal Writing Resources (<http://www.grad.illinois.edu/extfellowships/resources>).
- **Turn in the Plan of Study and Research Proposal, both approved by the full Advisory Committee**, to NRES Student Services by the end of the semester (December 15th for fall; May 15th for spring). See [Appendix A](#) for guidance on the Research Proposal.
- Begin discussing the [Preliminary Examination](#) with adviser.

In the Fourth Semester

- Download (http://nres.illinois.edu/system/files/NRES_Pre-Prelim_Form.pdf) and prepare the Pre-Preliminary Examination Form.
- Complete coursework.
- Pursue funding for research (<http://nres.illinois.edu/graduate/funding-your-research>).
» **The Preliminary Examination should be taken in the 4th or 5th semester and must be passed before the end of the 6th semester.**

In Subsequent Semesters

- Register for NRES 500 every semester (for either 0 or 1 hour).
- Enroll for the semester in which the Preliminary Examination will occur.
- Continue dissertation research.
- Consult the Graduate College Thesis information (<http://www.grad.illinois.edu/step-1-development>) to become familiar with copyright issues and format requirements.
- Draft and revise manuscripts that will become the dissertation.
- Submit manuscripts for publication.
- Submit paper and/or poster proposals to professional meetings.
- **Complete the Annual Review of Academic Progress each spring.**

As the Thesis Nears Completion

- E-mail nres-ssc@illinois.edu to request instructions and forms.
- Check the Graduate College Thesis and Dissertation deadlines at <http://illinois.edu/calendar/list/3259>.
- Review Graduate College requirements for the Final Examination Committee (<http://www.grad.illinois.edu/book/export/html/4978>)
- Add name to pending degree list in [Enterprise Self-Service](#).
- Submit of thesis/project to Examination Committee.
- Schedule final examination and advertise thesis seminar.
- Thesis seminar, followed by comprehensive exam and defense of thesis/project.

- Submit thesis to NRES Student Services for department format review and department head approval.
- Submission of thesis to the Graduate College.
- Completion of NRES Exit Survey.
- Return of all office and lab keys to secretary.
- Graduation.

Time Limit

NRES follows the Graduate College limits on time to degree (<http://www.grad.illinois.edu/book/export/html/4957>). The easiest way for a doctoral student to check his or her time limit is to log into [Enterprise Self-Service](#), navigate to Registration & Records → Student Records and Transcripts → View Student Information. On that page, find the Expected Graduation Date. Enrolling or graduating after that date will require an approved [petition](#) for a time extension and permission to count old coursework.

Enrollment in NRES 500 Graduate Seminar

NRES requires graduate students to enroll in NRES 500 Graduate Seminar each semester, with the exception of the semester in which they take NRES 594 (which requires seminar attendance). Students have the option of enrolling for 0 or 1 hour, which does count toward full-time enrollment. No more than 2 hours of NRES 500 can be counted toward the degree. Because this requirement is an effort to enhance the professional development of graduate students by exposing them to academic research and methods outside of their immediate experience and creating an important networking opportunity within the department, exceptions to this requirement will very rarely be granted. Any student wanting to request an exception to this requirement must complete the request form at http://go.illinois.edu/NRES500_exception_request.

Committee Composition

The Ph.D. Advisory Committee must include at least four voting members, three of whom must be members of the Graduate Faculty and two tenured members of the faculty. Non-voting members, such as an external reader, a member of the faculty who is off campus, or others who can make a significant contribution to the research, may be appointed. For any non-member of the Graduate Faculty, a letter of justification is required, along with a current CV. The committee should include faculty members from more than one area of specialization. The committee requirements set by the Graduate College are explained at <http://www.grad.illinois.edu/gradhandbook/2/chapter6/committees-exams>.

Preliminary Examination

» **You must be registered in the semester in which you take the preliminary exam.**

The preliminary exam is required by the Graduate College (<http://www.grad.illinois.edu/gradhandbook/2/chapter6/committees-exams#prelim>) and is meant to be a test of the student's knowledge of the basic content areas that are foundational to the research subject matter. Students should take their preliminary exam after they have completed the bulk of their course work and are readying themselves to devote most of their time to independent research. Students are expected to prepare for the exam after meeting with their examining committee, which will outline the scope of the exam within at least three basic content areas for mastery. The intent of this effort is that, through the process of review, the student will develop a new, more unified understanding of how core knowledge areas inform his/her area of inquiry. Ideally, the exam should be taken during the 4th or 5th semester of the Ph.D. program. Students must take the exam within 6 semesters in residence (not including summers) or request a waiver from the NRES Student Services including a justification signed by their adviser.

The exam will include written and oral portions. The student in consultation with his /her adviser and advisory committee will determine the scope and specific topics to be covered by the written exam and the specifics for format and timing. The two basic formats for the written exams that are strongly encouraged include: 1) a formal research proposal in the format suitable for submission to the NSF Dissertation Improvement Grant competition (current deadline at NSF is the second Thursday in October), or 2) questions prepared by members of the examining committee that are given to the adviser to administer.

Planning for the Preliminary Examination

The student will work with his/her adviser to develop an exam plan that will outline the core content areas for coverage, timing, and steps for exam administration. This preliminary exam plan should include deadlines for written exam completion and the date for the oral exam. The plan must be submitted to the NRES Student Services with the adviser's signature one month before the written exam begins. The Pre-Preliminary Examination Form covering the plan for the preliminary exam is available at http://nres.illinois.edu/system/files/NRES_Pre-Prelim_Form.pdf as a fillable PDF. **Students should download this form 3-4 months in advance of the preliminary exam and solicit input about the exam format from their adviser and committee members.**

The required information in this form includes:

1. date for the oral exam
2. director of dissertation research and oral exam committee chair
3. members of the student's committee and their departments along with a brief description of the expertise they bring to the committee
4. other committee members
5. core content areas to be covered in the exam

6. A description of the exam format including an indication whether the written will take the form of a proposal or be comprised of prepared questions. This must include information about the written exam.
 - a. If the written takes the form of a research proposal, then it is due two weeks before the oral exam.
 - b. If the written exam will consist of prepared questions developed by the examining committee and adviser, then the plan must list:
 - The types of questions to be asked (Open book essay, short answer, or review questions; Closed book essay or short answer questions; Technical, analytical questions that require numerical solution)
 - The time and place where student will take written exams; this may include multiple sessions and a mixed format

» You must submit your completed and approved Pre-Prelim Form to NRES Student Service at least one month before the date of your exam.

Appointing the Preliminary Exam Committee

Once the committee has agreed to a preliminary examination date, students must e-mail nres-ssc@illinois.edu to request the appointment of the Preliminary Examination Committee. Unless you have a special circumstance (such as wanting to appoint a member of your committee who is not on the faculty of the University of Illinois at Urbana-Champaign), the information needed to appoint your committee should be on your Pre-Prelim Form.

» You must provide NRES Student Services with all of the required information for the committee request form so that it can be submitted to the Graduate College at least three weeks before the date of your exam.

Chairing of the Oral Portion of the Exam

Prior to the exam, the student's guidance committee, in consultation with the adviser, will identify a committee member to serve as the oral exam chair. The oral exam chair will act as a neutral intermediary between the student, the adviser, and the other members of the committee. The role of the chair will be to convene the committee, administer the exam, and submit results certifying the outcome to the NRES Student Services. The chair will receive copies of the written exam questions and student responses at least one week before the oral exam. The chair's participation is intended to: help standardize the oral exam process, prevent any party from unduly or unfairly dominating the exchange, allow the adviser to participate in the exam more fully, and raise difficult questions that advisers and committee members who are close to the student may overlook or find difficult to broach. The three-hour oral exam will consist of two parts; the first part will be general and cover the student's core areas of emphasis. The second part of the exam will be a defense of the research proposal.

At the completion of the oral exam, the student will leave the room as the committee decides whether the student has passed the examination. The decision for satisfactory performance must be unanimous. If a student does not pass a preliminary exam, the committee may:

1. Adjourn with its decision deferred for a period of time not exceeding six months (no later than 180 days **after the appointment of the committee**, not the date of the examination).
2. Record a failure but grant the student another opportunity to take the examination after completing additional course work, independent study, or research. In this case, the Graduate College will be informed of the failure, and the committee chair will indicate that the student should be given a second examination. The second exam must occur within 180 calendar days of the first date of the exam, and the outcome of the second exam must be pass or fail.
3. Determine that the failure is final and the student will not be allowed to retake the exam. Only the voting members of the dissertation committee sign the Preliminary Exam Result Form (PER). The result of the examination must be promptly submitted to the NRES Student Services, and will be immediately reported to the Graduate College. If the Graduate College is not informed of the result of the examination within six months after the scheduled examination date, the committee is considered to be dissolved, and a new committee must be appointed before the examination occurs. The newly appointed committee may, but does not have to, consist of the same members as the dissolved committee.

Preparation of Dissertation

Students should refer to the [Thesis Checklist for Doctoral Students](#) for guidance on the dissertation and preparing for graduation. When the dissertation is completed, the student will be required to write up the research in a format acceptable to the Graduate College. If the research findings have been published, please note that the Department of NRES requires thesis formatting as follows:

- A one page, single paragraph abstract summarizing the entire body of work must be included.
- Appropriate literature review must be included. This should summarize how the research fits into the broader knowledge of the topic area. Part of this information may, but is not required, to be presented in a separate introductory chapter.
- Any data not reported within the body of the thesis must be included in appendices.
- Theses with multiple chapters must provide a summary that integrates the scope of their experiments into a broader research theme.
- The formatting must be consistent throughout the document, meeting Graduate College format requirements. If the student is including previously published work, this typically requires reformatting to ensure that items such as any figure and heading numbering, page numbers, line spacing, etc. are consistent throughout the dissertation.

It is *strongly* recommended that students use reference management software such as Endnote or RefWorks to format citations and the bibliography. While no specific citation style is required, consistent citation style is required. Use of reference management software ensures consistent style and reduces the chances that the thesis will be returned due to formatting issues.

All of the following documents will be required when depositing a dissertation:

- One committee signed Dissertation Approval Form (DAF) <http://www.grad.illinois.edu/sites/default/files/pdfs/doctoraltda.pdf>
- One ProQuest/UMI publishing agreement, signed by student (only pages 4 and 5 are required; accepted by fax or email) <http://www.grad.illinois.edu/sites/default/files/PDFs/ProQuestAgreement.pdf>
- Proof of completed AIDE Exit Survey (certificate of completion accepted by fax or email) <https://www.grad.illinois.edu/exitsurvey/>
- Proof of completed Survey of Earned Doctorates (certificate of completion accepted by fax or email) <https://sed.norc.org/survey>
- (If applicable) One copy of each permission letter to reprint copyrighted material (accepted by fax or email)
- One Data Transfer Form (request from NRES Student Services)
- NRES Graduate Student Exit Survey (request from NRES Student Services)

The [Graduate College Thesis Requirements](#) and the [Thesis Checklist for Doctoral Students](#) are useful resources.

During the last semester, students are responsible for being sure that their names have been added to the degree list by using UI Integrate. If unable to apply for graduation using UI Integrate, the student should contact NRES Student Services for assistance.

Well in advance of the final oral exam, a draft of the dissertation is to be submitted to the student's adviser. This draft should comply with the [Graduate College format guidelines](#). NRES format requirements are identical to the Graduate College requirements. The major adviser will then review the dissertation and make appropriate suggestions. Once these suggestions have been incorporated into the draft, it is to be circulated to the student's Examination Committee for review. All members of the final Examination Committee should receive the dissertation two weeks in advance of the date of the examination. The Examining Committee's recommendations for change will be presented to the student at the final exam.

Exit Seminar

A seminar presented at the end of the student's program is a report on the dissertation research. This 50-minute seminar is presented immediately prior to the thesis defense, and is open to the public. The student is responsible for contacting the NRES Student Services (email nres-ssc@illinois.edu) at least two weeks prior to the defense to arrange for a room reservation and advertising of the seminar.

Final Examination

» **Doctoral students must be registered in the semester in which they take the final exam.**

When the student's dissertation is nearing completion, the student should contact NRES Student Services (nres-ssc@illinois.edu) to request instructions on procedures and necessary forms. One task the student must request is the appointment of the Doctoral Final Examination Committee. The Graduate College rules governing committee composition and the exam process are outlined at <http://www.grad.illinois.edu/book/export/html/4978>.

Ph.D. students must be enrolled (typically in NRES 599) in the semester in which the final exam is taken, regardless of when the thesis will be deposited. Refer to the Graduate College academic calendar (<http://illinois.edu/calendar/list/3259>) for details. Usually the Final Examination Committee consists of the same members as the student's Advisory Committee.

The final exam and exit seminar take place on the same day. The seminar is 50 minutes, open to the public. After the seminar, the committee and student may move to a smaller room for the examination. The time and date of the final seminar and exam shall be communicated to the NRES Main Office secretary in order to be announced to the faculty of the department, at least two weeks prior to the exam. Before the exam, a member of the committee must sign for and pick up the Final Examination Result Form (FER) from the NRES Student Services Center.

Traditionally, this examination is described as the "the defense of the dissertation", and generally the research on which the dissertation is based provides the starting point of questions posed. However, it will also challenge the student's general knowledge and ability to integrate their research into the wider framework of their discipline.

It is the general practice for questioning in the exam to pursue lines of thought and argument from data and concepts that have contributed to the research and to its critical evaluation by the student. This broadening of the base is acceptable for the purpose both of "defending the dissertation" and of determining the intellectual qualifications of the candidate for the degree. Inasmuch as the Ph.D. degree is conferred on the basis of originality, independence of thought, and capacity to synthesize and interpret, the oral examination generally deals more with principles and historic perspective than with factual data. The student is pursuing an academic degree of high order, and the final oral examination should be conducted on a corresponding plane of intellectual inquiry. The examination itself is not a routine exercise to be taken lightly by the student or the Examination Committee, but one on which depends the issue of qualification for a degree having the broad connotation of Doctor of Philosophy. In judging the qualification for a degree of this type, the Committee is responsible for evaluating not only the quality of the research presented, but also the manner of its defense and the evidence provided of associated intellectual capacity. The student is recommended to be prepared well in advance of the final examination. To clarify for the student the expectations of the committee members, the student is urged to visit with each committee member prior to the examination.

The possible outcomes of this examination are pass with no revisions required, pass pending revisions, and fail. If the outcome is fail, the committee decides:

1. That the failure to pass should be recorded, but that the candidate should be given another opportunity after completing additional coursework or research. In this case, the certificate, noting failure, should be signed and returned with a brief note from the Chairperson indicating that the Committee believes the student should have a second examination.
2. That the failure is final. In this case, the certificate should be signed and returned.

Immediately after the exam is completed, the decision is marked on the Final Examination Result Form and, if the Committee is not requiring substantial revision of the dissertation, the members of the Committee sign the Final Examination Result Form (FER) and the Dissertation Approval Form (DAF). The adviser returns both forms to the NRES Student Services Center. The Student Services Center will upload the forms into the student's file and submit the originals to the Graduate College.

Submission of the Dissertation

If the draft submitted to the Examination Committee is acceptable, the members can sign the Dissertation Approval form immediately following the final examination. If revisions are required, signatures can be collected at a later date after the examination. Once revisions are satisfactory, a PDF of the dissertation and the Dissertation Approval form must be submitted to the Student Services office and the Graduate Coordinator for format approval, as required by the Graduate College. In addition, the Department of NRES requires some additional format requirements. See guidelines under [Preparation of Dissertation](#). A properly formatted thesis is required.

Once the format is approved, the dissertation and Dissertation Approval form will be electronically submitted to the NRES Department Head for review, approval, and signature. The student will be notified when the dissertation is ready to be electronically deposited. Allow at least two weeks for the Graduate Coordinator and Department Head approvals. At this time, the student will be asked to complete the NRES Graduate Student Exit Survey.

Acceptance of the dissertation by the Graduate College marks the official end of the graduate program, regardless of when the degree is conferred. The University will officially confer the degree after approval by the Board of Trustees of the University of Illinois. Ph.D. degrees are conferred in December, May, and August of each year. Diplomas will be mailed to graduates approximately one month later to the permanent address on record or the address provided by the student when applying to graduate.

Graduation

Graduate degrees are conferred in May, August, or December. Consult the Graduate College Thesis and Dissertation Calendar (<http://illinois.edu/calendar/list/3259>) for dates and deadlines for the specific term during which you plan to graduate. The only graduation ceremony at the University of Illinois is held in May, though the College of ACES also hosts a December graduation reception. Students graduating in August or December will be invited to participate in graduation the following May, when two ceremonies are held. The campus-wide ceremony is held at the Assembly Hall. A second ceremony is held by the College of ACES, also in the Assembly Hall. Graduation tickets are sent by the College of ACES Placement office, directly to all those on the graduation list.

Appendix A: Outline of Research Proposal for Program Milestones

Students pursuing the Ph.D. and the M.S. thesis option are required to submit a committee approved research proposal early in their program (end of the third semester for doctoral students and end of the second semester for master's students). This document provides guidance for that proposal.

Title – A clear, concise statement of the subject of the research. The title, used by itself, should give a good indication of what the project is about.

Previous Work – A brief review of the current state of knowledge on the problem, how it falls short of meeting current and future needs, and how the proposed work will extend present knowledge (literature citations should be included throughout the review of prior work, and full citations should be listed at the end of the project outline. Use of reference management software such as Endnote or RefWorks is strongly recommended). This literature review section should be a narrative that leads to a knowledge gap – critical information that is missing that will be addressed in the proposed research project. The conclusion of this section should lead the reader directly into the next two subsections of justification for further work and the statement of objectives for the proposed work.

Justification – This is a concise statement of the need for the proposed research derived from the knowledge gap outlined in the literature review above. State the importance of the topic in terms of conservation or management of natural resources, sustainability, environmental quality, or other appropriate framework. The justification may also indicate the reasons for doing the work at the proposed location at this particular time, and potential benefits to stakeholders, the scientific community, and the public at large.

Objectives – A clear, complete, and logically arranged statement of the specific objectives of the project that will address the need for research identified above. Each objective should be identified by a number.

Procedures – A statement of the essential working plans and methods to be used in attaining each of the stated objectives. The procedures should correspond to the objectives and follow the same order. Phases of the work to be undertaken immediately and concurrently should be designated. The location of the work and the facilities and equipment available and needed should be indicated. The statement on procedure should indicate that the research has been carefully planned and provide for changes when they are necessary to improve the work. This section also describes the data that will be collected, and the statistical analyses that will be used to analyze the data. This section should include references to appropriate published literature for the methods that are described.

Outcomes or Expected Results – This section indicates how the data collected will fit into hypotheses derived from prior research, or how the proposed research might address the knowledge gap that was identified in the literature review.

Timeline – This section is a list or table that contains an estimate of the time required to complete the research planned and publish the results. The timeline should be presented as a series of tasks (derived from the Objectives or Procedures sections), where the approximate timing for completion of each task is indicated.

References – Citations should be included in a complete and consistent format that is suitable for publication in a scientific journal. It is strongly recommended that students use reference management software such as Endnote or RefWorks to format citations and the bibliography. While no specific citation style is required, consistent citation style is required. Use of reference management software ensures consistent style, and will be a valuable skill for later academic endeavors.

As this proposal should be submitted for committee approval prior to the initiation of research, it is not expected that this document should contain extensive preliminary results or completed experiments. An appropriate length for this document is 8-15 single-spaced pages.