

**Graduate Student
Handbook
for
The Department of Forest
and Natural Resources
Management**

**SUNY College of Environmental Science and Forestry
320 Bray Hall, One Forestry Drive
Syracuse, NY 13210
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I. INTRODUCTION

Welcome to the 2011-12 Academic Year! We are delighted that you have joined a unique set of graduate students, faculty, and researchers who share a deep concern for the development and application of interdisciplinary approaches to the stewardship of natural resources. This is the current version of the *Graduate Student Handbook* for The Department of Forest and Natural Resources Management (FNRM). This version supersedes all previous Handbooks. After you read this handbook, your major professor and steering committee will have the tools to work with you to develop the best possible program of study for you.

The purpose of this handbook is to serve as a guide to policies and procedures of our graduate programs. Policies that pertain to you are set at several levels. The New York State Education Department and the State University of New York (SUNY) establish basic policies for all graduate programs. The ESF College Faculty have adopted a comprehensive set of graduate policies. These are published in the College catalog. The forms required to implement College policy are available at: <http://web.esf.edu/gweb/>. In addition, FNRM has developed specific policies, procedures, and guidelines for the effective delivery of our graduate programs. This handbook will guide you through the complexities of FNRM's graduate programs.

Please note that you should review the section that refers to **your** graduate degree program and the appendixes referred to in that degree program. All students should read the section on available "Resources" for FNRM graduate students.

FNRM Mission Statement

The mission of the Department of FNRM programs is to produce and to transmit knowledge about the function and dynamics of forests and related renewable resources to all of our customers; to encourage continual learning about forest and related renewable resources and their role in making people's lives better; and to develop leaders who will manage renewable resources for people on a sustainable basis.

Graduate Education Committee

Dr. René H. Germain is Chair of the FNRM Graduate Education Committee, which administers all FNRM graduate degrees. Feel free to ask him questions that arise from your use of this handbook and throughout your graduate education. He can be reached at rhgermai@esf.edu or 315-470-6698.

Email Account

All SUNY-ESF students have an email account assigned to them by the Registrar. This is your official email address. Dr. Germain will only use your official SUNY-ESF email address to send you information concerning job announcements, assistantships, and etc. As this is your official email account it is your responsibility to check it at least once a week. Students that fail to do so will not receive important broadcast messages sent by the Department or the College.

Graduate Petition Process

A few graduate students manage to complete their entire degree programs without having to file a single petition. However, because of our students' diverse backgrounds, interests, degree programs, and personal lives, many of our students occasionally find themselves in violation of some College or FNRM policy, or find a need to create proper documentation for their academic file. The correct vehicle to use is a Petition (see Appendix A for more information on petitions). Petition forms may be obtained from the Registrar's Office (111 Bray Hall).

We are always looking for ways to improve this handbook and our advising services. Please let us know what we can do to make your graduate program more effective for you.

Dr. René H. Germain, Chair – Graduate Education Committee
Dr. David H. Newman, Chair – Department of Forest and Natural Resources Management

August 2011

II. PROCEDURES AND POLICIES

Graduate Record Exam (GRE)

- 1) The Department of FNRM requires GRE test scores (or other type of graduate record exam scores, such as the LSATs or GMATs) as part of a complete application.
- 2) The Department of FNRM will only accept GRE test scores (or other type of graduate record exam scores, such as the LSATs or GMATs) for exams taken within the past five (5) years with the following proviso:
 - a. The applicant successfully completed a graduate degree within five (5) years of the date when the GRE exam was taken.
 - b. The applicant is actively pursuing and completing a graduate degree in a timely manner, thus showing success in graduate studies.

This is based on the GRE Board policy, which states that test scores are retained for the five (5) testing years following the year in which the test was taken.

Deadline of Financial Commitment for Foreign Students

If FNRM does not make a financial commitment to a foreign student by July 16 or if the foreign student is unable to provide evidence of sufficient personal resources, the graduate application will be withdrawn for the fall semester and the Office of Instruction and Graduate Studies will ask them if they want their application considered for a spring enrollment or withdrawn from any further consideration.

Guidelines for Cancelling a Graduate Class due to Low Enrollment

- 1) If a graduate course (500 level and above) has less than five (5) students or a total of less than five (5) graduate and undergraduate students in a shared resource course (e.g., FOR3XX/5XX or FOR4XX/6XX), the course may be cancelled at the discretion of the Department Chair.
- 2) An instructor may request the Department Chair to cancel a graduate course due to low enrollment. However, the instructor should wait until during the first week of enrollment before making the request. This allows new graduate students who do not register until just before the start of classes to enroll in the course.

Summer Defense of Thesis/Dissertation

According to College Policy, summer defenses are available only by petition.

Rules for Switching Degree Programs

Rules for moving from one FNRM graduate degree program to another FNRM graduate degree program:

- a) Switch from one Master's degree program to another (MS, MPS, MF) no later than the end of the 2nd semester of graduate study.
- b) No Ph.D. to MPS or MF.

- c) Ph.D. to MS – anytime prior to candidacy exam.
- d) In unique circumstances, MS, MPS, or MF to Ph.D. after successfully completing 24 credit hours of graduate course work.

Admissions Information for Prospective Graduate Students

College Requirement:

For applicants whose native language is not English, ESF requires official TOEFL score to have a minimum total score of 80 and at least a score of 17 on each individual section on the internet-based exam. If the old paper-based TOEFL is used the minimum score is 550 and if the old computer-based TOEFL is used the minimum score is 213. If these scores are not met, the college cannot authorize visa paperwork.

If an accepted applicant's score is less than 100 on the internet-based exam, 600 on the paper-based exam, or 250 on the computer-based exam, they will be required to take the English Language Assessment Exam (ELAE) administered by Syracuse University. Based on results of that exam, students may be directed to enroll in preparatory courses in English language usage.

FNRM Requirements:

1. Each admitted graduate student must have a major professor willing to provide mentoring through the graduate program. It is highly recommended that applicants contact and identify at least one possible major professor prior to submitting an application.
2. Recent GRE test scores (or other type of graduate record exam scores, such as the LSATs or GMATs) are required as part of a complete application.

FNRM GPA and GRE Score Guidelines:

1. An academic record showing a minimum GPA of at least a B (3.0 on a scale of 4.0) average for the junior and senior year of a baccalaureate program.
2. A combined GRE score of at least 1000 (verbal plus quantitative) for master's level applicants and a combined GRE score of at least 1100 (verbal plus quantitative) for doctoral level applicants.

Application Advice

The GPA and GRE guidelines provided above are not requirements for admission, although good scores in these areas do correlate with success in graduate school (see *Science* 2007 Vol. 315, pg 1080-81). While GRE scores and GPA are important to our evaluation of graduate applications, other factors are also fundamental to the admission decision: strong letters of reference indicating the applicant's ability to succeed in graduate school, prior experience in the field, a well written statement of education goals, and other experiences or qualifications that may indicate potential for graduate study.

Graduate Credit for Graduate Assistantship Courses

Graduate Assistants (GA) assigned to assist with a course that they have not previously received graduate credit for, may, with the instructor's approval: 1) take the course for a grade, or 2) take the course for an audit.

1. Taking the Course for a Grade: If a GA is to receive graduate credit for a course they are simultaneously taking and being a GA for, the following two requirements must be met:
 - a. The GA cannot be responsible for creating assignments, such as homework, quizzes, papers or exams; grading their own homework, quizzes, papers or exams; or maintaining the official course grade book.
 - b. To protect the student, a copy of this policy signed by the student and instructor indicating the semester and identifying the course shall be placed in the student's folder.
2. Taking the Course for an Audit: The requirements for taking a course for a grade shall not apply to a student taking a course as an audit, as an audit cannot count towards satisfying any graduation requirements.

Instructor Discretion: Nothing in this policy shall imply that a GA has a right to take a course for a grade or an audit. Instructors have complete discretion to make these options available to GAs.

Signing of Registration Forms

The following people may sign a FNRM graduate student's registration form:

1. The graduate student's Major Professor (MP) or Co-Major Professor (Co-MP)
2. If either the graduate student's MP or Co-MP are not available, the student should first go to the Chair of FNRM's Graduate Education Committee. If the Chair of FNRM's Graduate Education Committee is not available, then the Department Chair of FNRM may sign the registration form.

III. CONCURRENT DEGREES with SYRACUSE UNIVERSITY

The Department of Forest and Natural Resources Management works with the Office of Instruction and Graduate Studies to also offer the following concurrent degrees with Syracuse University:

- Master of Public Administration in the Maxwell School of Citizenship and Public Affairs
- Master of Business Administration in the Martin J. Whitman School of Management
- Master of Arts or Master of Science in the S.I. Newhouse School of Public Communications
- Master of Science in the School of Education

General Information

To be eligible for admission to the concurrent degree programs, matriculated students must complete at least one full-time semester of graduate-level coursework or the equivalent, and earn a 3.5 grade point average or better at ESF. Students who are interested in any of these programs must complete an application process through the ESF Office of Instruction and Graduate Studies within their first year of study.

Master of Public Administration in the Maxwell School of Citizenship and Public Affairs

The Maxwell School of Citizenship and Public Affairs was ranked #1 in 2009 for Public Affairs by U.S. News and World Reports (http://www.maxwell.syr.edu/inside/USNews_1.pdf)

The Master of Public Administration (MPA) is a one (1) year program that is designed to prepare students for the challenges of leadership and management in the public sector. Maxwell is the only major school where the professional graduate program in public administration is integrated within the larger school of social sciences (anthropology, economics, geography, history, political science and sociology). This strong tradition of interdisciplinary research and study provides a rich context for the professional study of public policy analysis and management.

General information about the Maxwell School of Citizenship and Public Affairs can be found at: <http://www.maxwell.syr.edu/>. Specific information about the MPA degree program can be found at: <http://www.maxwell.syr.edu/pa/mpaprogram.asp> .

Contact Faculty Member

Robert W. Malmshemer, Professor
Forest and Natural Resources Policy and Law
305 Bray Hall, 315-470-6909, rwmalms@esf.edu

Master of Business Administration in the Martin J. Whitman School of Management

The Master of Business Administration (MBA) is a two (2) year program that provides a well-rounded education incorporating both the theoretical background and practical experience needed to succeed in today's global economy. The MBA program challenges students by encouraging entrepreneurial thinking through specialized courses and practical experience working with local entrepreneurs

General information about the Martin J. Whitman School of management can be found at: <http://whitman.syr.edu/>. Specific information on the MBA program can be found at: <http://whitman.syr.edu/MBA/>.

Contact Faculty Member
Rene' H. Germain, Professor
Graduate Education Coordinator – FNRM
316 Bray Hall
Syracuse, NY 13210
phone: (315) 470-6698

Master of Arts or Master of Science in the S.I. Newhouse School of Public Communications

Newhouse School of Public Communications offers eleven (11) professional master's degree programs covering the full gamut of mass communications: advertising; arts journalism; broadcast journalism; documentary film and history; magazine, newspaper, and online journalism; media management; new media; photography; public diplomacy; public relations; and television, radio, and film. Students will be exposed to intense classroom study, field experience, and hands-on, real-world project development.

General information about the S.I. Newhouse School of Public Communications can be found at: <http://newhouse.syr.edu/>. Specific information on the various master's degree programs can be found at: <http://newhouse.syr.edu/prospective/grad/>

Contact Faculty Member
Rene' H. Germain, Professor
Graduate Education Coordinator – FNRM
316 Bray Hall
Syracuse, NY 13210
phone: (315) 470-6698

Master of Science in the School of Education

Students will study with a faculty whose members are celebrated for their contributions to educational research and theory, their dedication to community service, and their extraordinary teaching abilities. You will be engaged in a program that encompasses the most effective traditional approaches while challenging the wisdom of conventional practices; assured opportunities for research, clinical practice, and internships designed to clarify relationships of theory and practice; and assured the assistance of a mentoring faculty to help you get the most out of all these experiences.

General information about the School of Education can be found at: <http://soeweb.syr.edu/>.

Specific information about the Master of Science degree can be found at:

<http://soeweb.syr.edu/academics/grad/>.

Contact Faculty Member

Rene' H. Germain, Professor

Graduate Education Coordinator – FNRM

316 Bray Hall

Syracuse, NY 13210

phone: (315) 470-6698

IV. THE MASTER OF FORESTRY DEGREE

The Master of Forestry (MF) graduate degree program enables students to integrate knowledge and expertise drawn from both the natural and social sciences, and to apply their knowledge to solve practical forest management problems. The primary focus of the program is to provide an opportunity for graduates coming from diverse academic backgrounds with non-forestry baccalaureates to gain a professional education in forestry. As such, the program is designed to be the first professional degree in forestry attained by a student. The program is accredited by the Society of American Foresters (SAF); the specialized accrediting body for forestry educational programs in the United States. Graduates will successfully function as professional foresters on multi-disciplinary forest management teams and respond to the challenges related to the sustainable management of local, regional and global forest resources.

The program is open to both students with some prior background in forestry and natural resources and for those without such background. Students with a degree in a related discipline (e.g., ecology, biology, wildlife, chemistry, etc.) can complete the MF degree in twelve (12) to eighteen (18) months. Students with a general science background, but little or no forestry experience, will require eighteen (18) to twenty-four (24) months to complete the program. The curriculum is designed for May admission for the 4-week summer field program. More than four (4) semesters may be required for students from non-science backgrounds who need additional basic undergraduate coursework as part of their program of study.

The Department of Forest and Natural Resources Management (FNRM) uses a checklist to facilitate detailed program planning and to document of the steps required for graduation. Major professors keep a version of the checklist with student-specific information in their advising files. Each student is encouraged to keep an updated personal copy.

A few graduate students manage to complete their entire degree program without having to file a single petition. However, because of our students' diverse backgrounds, interests, degree programs, and personal lives, many of our students occasionally find themselves in violation of some College or FNRM policy, or find a need to create proper documentation for their academic file. The correct vehicle to use is a Petition (see Appendix A for more information on petitions). Petition forms may be obtained from the Registrar's Office (111 Bray Hall).

Prerequisites

Students are accepted into our programs with a variety of backgrounds. Deficiencies in undergraduate-level English, ecology, forestry, soils, or statistics may have been identified in your letter of admission. If not completed prior to matriculation, appropriate classes should be taken during residence. Either undergraduate or graduate courses may be taken to remedy deficiencies, depending on the circumstance. Undergraduate courses are not included in grade point averages, and do not count toward satisfying the minimum number of required graduate credit hours.

Transfer Credit

Up to six (6) credits of graduate coursework **not used to complete any other graduate degree** may be accepted toward completion of a master's degree as approved by your steering committee. A student may not transfer any graduate coursework earned as part of a conferred master's degree toward an ESF master's degree. Students may transfer up to nine (9) credits of credit-bearing **non-degree ESF** graduate coursework (e.g., credit-bearing graduate coursework taken as a non-matriculated ESF student) toward a master's degree. Credit hours appropriate to the graduate degree in which a minimum grade of B was earned from an accredited institution can be transferred to the college, but grades and grade points cannot be transferred. All transfer credit will remain tentative until official, final transcripts are received. In addition, all transfer credits must be approved by the steering committee and by the Graduate Education Committee via a petition.

Steering Committee

You will have a steering committee that provides advice about your coursework and other aspects of the program. The steering committee is composed of the major professor, who is assigned to you at admission, and at least one other faculty member or other qualified person. A new major professor, different from the assigned, can be assigned by submitting a new Form 2A (available from the Office of Instruction and Graduate Studies (227 Bray Hall) and at www.esf.edu/graduate/graddegreq.htm). Two co-major professors count as two committee members. You, in consultation with your major professor, choose who will be on your steering committee during the first semester. MF students must have a minimum of a major professor and one (1) steering committee member.

To have your steering committee assigned, you must submit Form 2A Steering Committee, obtained from the Office of Instruction and Graduate Studies (227 Bray Hall) and at www.esf.edu/graduate/graddegreq.htm). This form must be signed by the Chair of the Graduate Education Committee and recorded by the FNRM Graduate Education Secretary.

As a graduate student, **you** are responsible and accountable for your progress. You should meet at least once a year with your steering committee, but frequent informal meetings with your major professor and individual committee members are strongly encouraged.

Coursework Requirements and Guidelines

The MF degree has been designed to satisfy three (3) requirements. First, the College requires a minimum of thirty (30) graduate credit hours of which twenty-four (24) credit hours in graduate coursework must be taken in residence at ESF (see the College Catalog available at <http://www.esf.edu/catalog>). Second, to satisfy SAF accreditation requirements, MF students must complete a set of core forestry courses designed to provide a foundation in the science of forestry and the management of forests distributed across the four SAF-defined areas of study: 1) Forest Ecology and Biology; 2) Measurement of Forest Resources; 3) Management of Forest Resources; and 4) Forest Resource Policy & Administration. Third, the Department of FNRM has established the following specific requirements:

- A three (3) credit forestry internship (FOR 898) course that is usually taken during the summer prior to their final semester of coursework. This requirement provides applicants

with opportunities to integrate biological and management concepts within a forestry context. Students will find their own internship opportunity, in consultation with their advisory committee. Appendix F contains the FNRM Internship Agreement form.

- A three (3) credit integrated resources management course. Students are required to demonstrate their ability to integrate biological and management concepts to solve forest management problems.
- All MF students must have a broad exposure to the skills and knowledge needed by professional foresters. Students are required to complete at least six (6) graduate credit hours in each of four (4) SAF-defined areas of study given above. This combination of courses satisfies SAF accreditation requirements and reinforces the integration of the natural and social sciences to forestry problem-solving applications.
- All MF students must meet the SUNY general education requirements listed below before earning their MF degree. We expect most incoming students will meet these requirements through their Bachelor's degree. Any deficiencies will need to be addressed during residence.

SUNY/FNRM General Education Requirements	Credit Hours	Courses Taken to Satisfy Requirement	Credit Hours
Communication English and Public Speaking	6		
Natural Science Biology (w/lab)	4		
Mathematics Precalculus or better	3		
Social Science Economics	3		
History American and/or Western Civ	6		
Total Credit Hours	22		

Graduate Degree Requirements

Required Core Forestry Courses	Credit Hours
<u>Undergraduate Required Core</u>	
FOR 304 Adirondack Field Studies	4
ESF 300 Introduction to Geospatial Information Technologies	3
EFB 336 Dendrology	3
<u>Graduate Required Core</u>	
FOR 522 Forest Mensuration	3
FOR 524 Forest Biometrics	3
FOR 532 Forest Ecology	3
FOR 533 Managerial Economics for Environmental Professionals	3
FOR 534 Silvicultural Practice	4
FOR 545 Introduction to Soils	3
FOR 570 Forest Management Decision Making and Planning	3
FOR 573 Forest Operations	3
FOR 665 Natural Resources Policy	3
FOR 689 Natural Resources Law and Policy	3
FOR 898 Professional Experience/Internship	3
FOR 690 Integrated Resources Management	3
Total Credit Hours	37

The undergraduate core includes an off-campus, 4-week summer field course, Adirondack Field Studies, giving students the required field skills prior to their fall semester. The graduate required core courses satisfy, 1) the graduate level courses required in each of the four SAF-defined areas of study, and 2) count towards the College requirement of a minimum of 30 graduate credits. FOR 532 Forest Ecology, FOR534 Silvicultural Practice and FOR545 Introduction to Soils satisfy the Forest Ecology and Biology requirement. FOR522 Forest Mensuration and FOR523 Forest Biometrics satisfy the Measurement of Forest Resources requirement. FOR533 Managerial Economics for Environmental Professionals, FOR570 Forest Management Decision Making and Planning and FOR573 Forest Operations satisfy the Management of Forest Resources requirement. FOR665 Natural Resources Policy and FOR688 Natural Resources Agencies and Administration satisfy the Forest Resource Policy and Administration requirement. You may petition to have specific core forestry courses waived based on your academic

background. The FNRM Graduate Education Committee reviews petitions on an individual basis.

Student Study Plan

After forming your steering committee, you ***must*** fill out Form 3B: Graduate Student Program (available from the Office of Instruction and Graduate Studies (227 Bray Hall) and at www.esf.edu/graduate/graddegreq.htm). This form ***must*** be signed by your major professor, all of the members of your steering committee, and the Chair of the Graduate Education Committee. This form ***must*** be completed by the end of the first semester. The FNRM Graduate Secretary (Ms. Kim Collins, 320 Bray Hall) records the form and forwards it to the Office of Instruction and Graduate Studies for approval. Once approved, Form 3B serves as an institutional endorsement of your graduate program of study and protects you by officially stating what courses you will complete and when you will complete them. Students that change their program of study must submit an updated Form 3B (signed by your major professor, all of the members of your steering committee, and the Chair of the Graduate Education Committee) to the FNRM Graduate Secretary.

Department of Forest and Natural Resources Management MF Checklist

Step	Procedure	Responsibility	Target date	Date done
1.	Propose steering committee (Memo by Chair of the Graduate Education Committee (CGEC) to Office of Instruction and Graduate Studies (OIGS)).	Major Professor (in consultation with student)	First semester	__/__/__
2.	Student meets with steering committee to determine appropriate coursework. Student completes Form 3B. Student, major professor, and steering committee sign form (which must be approved by CGEC and OIGS).	Student	First semester	__/__/__
3.	Student meets with steering committee to review study plan (and if necessary, revise Form 3B).	Student	Second semester	__/__/__
4.	Certify completion of all requirements (Form 9), through CGEC to OIGS.	Major Professor	Before graduation	__/__/__

V. THE MASTER OF PROFESSIONAL STUDIES DEGREE

The Master of Professional Studies (MPS) graduate degree program enables students to integrate knowledge and expertise drawn from both the natural and social sciences, and to apply their knowledge to solve practical forest and natural resources management problems. The primary focus of the program is to provide an opportunity for graduates coming from related academic backgrounds with baccalaureates to gain a professional education in forest and natural resources management. As such, the program is designed to be the first professional degree in forest and natural resources management. Graduates will successfully function as professional managers on multi-disciplinary forest and natural resources management teams and respond to the challenges related to the sustainable management of local, regional and global resources.

The program is open to both students with some prior background in forestry and natural resources and for those without such background. Students with a degree in a related discipline (e.g., ecology, biology, wildlife, chemistry, etc.) can complete the MPS degree in twelve (12) to eighteen (18) months. Students without a general science background will require eighteen (18) to twenty-four (24) months to complete the program. The curriculum is designed for fall admission, but spring semester admission is possible. More than four (4) semesters may be required for students from non-science backgrounds who need additional basic undergraduate coursework as part of their program of study.

The Department of Forest and Natural Resources Management (FNRM) uses a checklist to facilitate detailed program planning and to document of the steps required for graduation (see below). Major Professors keep a version of the checklist with student-specific information in their advising files. Each student is encouraged to keep an updated personal copy.

A few graduate students manage to complete their entire degree programs without having to file a single petition. However, because of our students' diverse backgrounds, interests, degree programs, and personal lives, the many of our students occasionally find themselves in violation of some College or FNRM policy, or find a need to create proper documentation for their academic file. The correct vehicle to use is a Petition (see Appendix A for information on petitions). Petition forms may be obtained from the Registrar's Office (111 Bray Hall).

Prerequisites

Students are accepted into our programs with a variety of backgrounds. Deficiencies in undergraduate-level English, ecology, forestry, soils, or statistics may have been identified in your letter of admission. If not completed prior to matriculation, appropriate classes should be taken during residence. Either undergraduate or graduate courses may be taken to remedy deficiencies, depending on the circumstance. Undergraduate courses are not included in grade point averages, and do not count toward satisfying the minimum number of required graduate credit hours.

Transfer Credit

Up to six (6) credits of graduate coursework **not used to complete any other graduate degree** may be accepted toward completion of a master's degree as approved by your steering committee. A student may not transfer any graduate coursework earned as part of a conferred master's degree toward an ESF master's degree. Students may transfer up to nine (9) credits of credit-bearing **non-degree ESF** graduate coursework (e.g., credit-bearing graduate coursework taken as a non-matriculated ESF student) toward a master's degree. Credit hours appropriate to the graduate degree in which a minimum grade of B was earned from an accredited institution can be transferred to the college, but grades and grade points cannot be transferred. All transfer credit will remain tentative until official, final transcripts are received. In addition, all transfer credits must be approved by the steering committee and by the Graduate Education Committee via a petition.

Steering Committee

You will have a steering committee that provides advice about your coursework and other aspects of the program. The steering committee is composed of the major professor, who is assigned to the student at admission, and at least one other faculty member or other qualified person. A new major professor, different from the assigned, can be assigned by submitting a new Form 2A (available from the Office of Instruction and Graduate Studies (227 Bray Hall) and at www.esf.edu/graduate/graddegreq.htm). Two co-major professors count as two committee members. You, in consultation with your major professor, choose who will be on your steering committee during the first semester. MPS students must have a minimum of a major professor and one (1) steering committee member.

To have your steering committee assigned, you must submit Form 2A Steering Committee, obtained from the Office of Instruction and Graduate Studies (227 Bray Hall) and at www.esf.edu/graduate/graddegreq.htm). This form must be signed by the Chair of the Graduate Education Committee and recorded by the FNRM Graduate Education Secretary.

As a graduate student, you are responsible and accountable for your progress. You should meet at least once a year with your steering committee, but frequent informal meetings with your major professor and individual committee members are strongly encouraged.

Coursework Requirements and Guidelines

The MPS degree requires a minimum of thirty (30) total graduate credit hours, of which at least of twenty-four (24) credit hours must be taken in residence at ESF. These general graduate requirements are set by the College (see the College Catalog available at <http://www.esf.edu/catalog>). In addition to the general graduate requirements, FNRM has established the following faculty specific requirements:

Requirements/Courses	Credit Hours
A. A graduate level course in statistics	3
B. FOR560 Principles of Management (or equivalent; if waived, add 3 hours to E or F) ¹	3
C. FOR692 Capstone in Forest and Natural Resources Management	3
D. Graduate course in environmental or scientific writing, or demonstration of ability (if waived, add 3 hours to E or F) ²	3
E. At least 15 graduate credit hours in student's area of concentration	15
F. At least 3 graduate credit hours in quantitative methods, geographic information systems, or statistics	3
Total Credit Hours	30

¹ This requirement may be waived under the following conditions: 1) a B or better in a junior/senior level principles of management course from an accredited institution; 2) a memo attached to the 3B form and the MPS course list signed by student and steering committee approving the waiver.

² This requirement may be waived under the following conditions: 1) a portfolio of written work will be submitted to be reviewed by the steering committee; 2) a memo attached to the 3B form and the MPS course list signed by student and steering committee stating they have reviewed the portfolio and approve the waiver.

No more than three (3) credits of a professional experience or internship (FOR898) may be used towards the thirty (30) credits. Professional experience or internship (FOR898) will be listed as part of the student's area of concentration.

No course may be used to satisfy more than one requirement. Credit may be given for graduate course work successfully completed before entry into the MPS program, but the total requirement is thirty (30) graduate credit hours with at least twenty-four (24) taken in residence at ESF. See the Transfer Credit section above.

Student Study Plan

After forming your steering committee, you **must** fill out Form 3B: Graduate Student Program (available from the Office of Instruction and Graduate Studies (227 Bray Hall) and at www.esf.edu/graduate/graddegreq.htm). This form **must** be signed by your major professor, all of the members of your steering committee, and the Chair of the Graduate Education Committee. This form **must** be completed by the end of the first semester. The FNRM Graduate Secretary (Ms. Kim Collins, 320 Bray Hall), records the form and forwards it to the Office of Instruction and Graduate Studies for approval. Once approved, Form 3B serves as an institutional endorsement of your graduate program of study and protects you by officially stating what courses you will complete and when you will complete them. Students that change their program

of study must submit an updated Form 3B (signed by your major professor, all of the members of your steering committee, and the Chair of the Graduate Education Committee) to the FNRM Graduate Secretary.

Additionally, you *must* complete the FNRM “MPS Course List” (see Appendix B) and submit it with your Form 3B. The “MPS Course List” should contain all courses listed on the Form 3B and demonstrate how these courses fulfill the MPS requirements. This list is used to verify that students have chosen courses that meet MPS degree requirements.

Department of Forest and Natural Resources Management MPS Checklist

Step	Procedure	Responsibility	Target date	Date done
1.	Decide upon general area of study	Student (In consultation with Major Professor)	First semester or before	__/__/__
2.	Propose steering committee (Memo by Chair of the Graduate Education Committee (CGEC) to Office of Instruction and Graduate Studies (OIGS)).	Major Professor (in consultation with student)	First semester	__/__/__
3.	Student and steering committee determine appropriate coursework. Student completes Form 3B and “MPS Course List” form. Student, major professor, and steering committee sign form (which must be approved by CGEC and OIGS).	Student	First semester	__/__/__
4.	Meet with steering committee to review study plan (and if necessary, revise Form 3B).	Student	Second semester	__/__/__
5.	Certify completion of all requirements (Form 9, through CGEC to OIGS)	Major Professor	Before graduation	__/__/__

VI. THE MASTER OF SCIENCE DEGREE

The Master of Science (MS) graduate degree program enables students to integrate knowledge and expertise drawn from both the natural and social sciences, and to research issues and apply their knowledge to solve practical problems in forest and natural resources management situations. The primary focus of the program is to provide an opportunity for graduates coming from related academic backgrounds with baccalaureates to gain a science-based education in forest and natural resources management. Graduates will successfully function as researchers and managers on multi-disciplinary forest and natural resource management teams and respond to the challenges related to the sustainable management of local, regional and global resources.

The program is open to both students with some prior background in forestry and natural resources and for those without such background. Students with a degree in a related discipline (e.g., ecology, biology, wildlife, chemistry, etc.) can complete the MS degree in twenty-four (24) to thirty (30) months. Students without a general science background will require more than thirty (30) months to complete the program. More than four (4) semesters of coursework may be required for students from non-science backgrounds who need additional basic undergraduate coursework as part of their program of study.

The Department of Forest and Natural Resources Management (FNRM) uses a checklist to facilitate detailed program planning and to document of the steps required for graduation (see below). Major Professors keep a version of the checklist with student-specific information in their advising files. Each student is encouraged to keep an updated personal copy.

A few graduate students manage to complete their entire degree programs without having to file a single petition. However, because of our students' diverse backgrounds, interests, degree programs, and personal lives, many of our students occasionally find themselves in violation of some College or FNRM policy, or find a need to create proper documentation for their academic file. The correct vehicle to use is a Petition (see Appendix A for information on petitions). Petition forms may be obtained from the Registrar's Office 111 Bray Hall).

Prerequisites

Students are accepted into our programs with a variety of backgrounds. Deficiencies in undergraduate-level English, ecology, forestry, soils, or statistics may have been identified in your letter of admission. If not completed prior to matriculation, appropriate classes should be taken during residence. Either undergraduate or graduate courses may be taken to remedy deficiencies, depending on the circumstance. Undergraduate courses are not included in grade point averages, and do not count toward satisfying the minimum number of required graduate credit hours.

Transfer Credit

Up to six (6) credits of graduate coursework **not used to complete any other graduate degree** may be accepted toward completion of a master's degree as approved by your steering committee. A student may not transfer any graduate coursework earned as part of a conferred master's degree toward an ESF master's degree. Students may transfer up to nine (9) credits of

credit-bearing **non-degree ESF** graduate coursework (e.g., credit-bearing graduate coursework taken as a non-matriculated ESF student) toward a master's degree. Credit hours appropriate to the graduate degree in which a minimum grade of B was earned from an accredited institution can be transferred to the college, but grades and grade points cannot be transferred. All transfer credit will remain tentative until official, final transcripts are received. In addition, all transfer credits must be approved by the steering committee and by the Graduate Education Committee via a petition.

Steering Committee

You will have a steering committee that provides advice about your coursework and other aspects of the program. The steering committee is composed of the major professor, who is assigned to the student at admission, and at least two other faculty members or other qualified persons. A new major professor, different from the assigned, can be assigned by submitting a new Form 2A (available from the ESF Office of Instruction and Graduate Studies (227 Bray Hall) and at www.esf.edu/graduate/graddegreq.htm). Two co-major professors count as two committee members. You, in consultation with your major professor, choose who will be on your steering committee during the first semester. MS students must have a minimum of a major professor and two (2) steering committee members.

To have your steering committee assigned, you must submit Form 2A Steering Committee (available from the ESF Office of Instruction and Graduate Studies (227 Bray Hall) and at www.esf.edu/graduate/graddegreq.htm). This form must be signed by the Chair of the Graduate Education Committee and recorded by the FNRM Graduate Education Secretary.

As a graduate student, you are responsible and accountable for your progress. You should meet at least once a year with your steering committee, but frequent informal meetings with your major professor and individual committee members are strongly encouraged.

Coursework Requirements and Guidelines

The MS degree requires a minimum of thirty (30) total graduate credit hours. A total of twenty-four (24) hours in graduate coursework are required, of which at least eighteen (18) credit hours must be taken in residence at ESF. MS students must complete at least six (6) credit hours of thesis research credit (FOR 899: Masters Thesis). These general graduate requirements set by the College (see the College Catalog, available at www.esf.edu/catalog). Students develop programs of study to satisfy their coursework requirement in consultation with their major professor and steering committee. Coursework should provide a coherent body of theory, a set of appropriate methods to test that theory, and should focus on an important area of application beyond the specific work done for the graduate degree (see Appendix C for guidance in coursework).

In addition to the general graduate requirements, FNRM has established the following specific requirements:

Seminars

All MS students must take two (2) topical seminars, at least one of which must be a FOR 797 topical seminar.

Capstone

All MS students must present a capstone seminar on their thesis work. The student's presentation in a FOR 797 course may be used as the capstone seminar if it is so advertised. You should submit all of your capstone information to the FNRM Office (320 Bray Hall). You will need to set up the time, date, and location of your capstone after checking with your major professor and steering committee members. This information must be given to the FNRM Secretary (Ms. Debra Sovocool, 320 Bray Hall), at least two (2) weeks in advance of your capstone. Capstones will not be scheduled with less than two weeks notice. Ms. Sovocool will produce a flyer and have copies posted around campus.

600-level and Resident Courses

As noted above, MS students must complete at least thirty (30) graduate credits (twenty-four (24) coursework credits and six (6) thesis research credits). Twelve (12) coursework credit hours must be at the 600-level or above. No more than two (2) credits of seminar can be counted as part of the twelve (12) 600-level or above coursework requirement.

Student Study Plan

After forming your steering committee, you **must** fill out Form 3B: Graduate Student Program (available from the ESF Office of Instruction and Graduate Studies (227 Bray Hall) and at www.esf.edu/graduate/graddegreq.htm). This form **must** be signed by your major professor, all of the members of your steering committee, and the Chair of the Graduate Education Committee. This form **must** be completed by the end of the third semester. The FNRM Graduate Secretary (Ms. Kim Collins, 320 Bray Hall), records the form and forwards it to the Office of Instruction and Graduate Studies for approval. Once approved, Form 3B serves as an institutional endorsement of your graduate program of study and protects you by officially stating what courses you will complete and when you will complete them, and how you will complete your thesis requirements. Students that change their program of study must submit an updated Form 3B (signed by your major professor, all of the members of your steering committee, and the Chair of the Graduate Education Committee) to the FNRM Graduate Secretary.

Thesis

A focal point of MS graduate study is the thesis. A thesis is a document that clearly demonstrates your graduate level accomplishments. It details the results of your scholarly endeavor and is the subject of the thesis defense. The MS thesis should demonstrate that the student has: 1) a core understanding of the state of knowledge in the field of study, and 2) working knowledge of the scientific method.

FNRM accepts two thesis styles: 1) the traditional style or 2) the manuscript style. The traditional style is described at www.esf.edu/graduate/thesisdiss.htm. Directions for preparation of a manuscript style thesis is available in Appendix D. Examples of title page, abstract, and vita page are available at the web page noted above. MS students and their major professors and steering committees decide which style – traditional vs. manuscript – is appropriate for each student.

Thesis Defense Examination

The thesis defense examination is conducted by your steering committee and one or more additional examiners, for a minimum total examining committee of four (4) persons. In addition, the Dean of Instruction and Graduate Studies appoints a faculty member from outside FNRM to supervise the examination. Students *must* fill out Form 5B: Request to Appoint Defense of Thesis/Dissertation Examination Committee (available from the Office of Instruction and Graduate Studies (OIGS) (227 Bray Hall) and at www.esf.edu/graduate/defense.htm) to appoint a thesis examination committee. When OIGS receives the signed form, a chair will be appointed for the defense. You will then receive Form 5C, which officially appoints your committee, at which time you need to contact all members of the committee, including the chair, to schedule your defense.

The student is responsible for working with the major professor, OIGS, and all examining committee members to plan the examination and meet all deadlines for delivery of materials. Form 5B should be submitted to the OIGS at least one (1) month prior to the anticipated defense date. The student must inform OIGS of the agreed upon date, time, and location for the defense at least two (2) weeks in advance of the defense date.

A final draft of the thesis must be delivered to each member of the Defense Committee, including the Chair, at least fourteen (14) days prior to the scheduled defense date.

Department of Forest and Natural Resources Management MS Checklist

Step	Procedure	Responsibility	Target Date	Date Done
1.	Decide upon general area of study	Student (In consultation with major professor)	First semester or before	__/__/__
2.	Propose steering committee (Memo by Chair of the Graduate Education Committee (CGEC) to Office of Instruction and Graduate Studies (OIGS).	Major professor (in consultation with student)	First semester	__/__/__
3.	Student and steering committee determine appropriate coursework. Student completes Form 3B. Student, major professor, and steering committee sign form (which must be approved by CGEC and OIGS).	Student	First semester	__/__/__
4.	Meet with steering committee to review study plan (and if necessary, revise Form 3B).	Student	Second semester	__/__/__
5.	Submit thesis to major professor for review	Student	Beginning of final semester	__/__/__
6.	Request appointment of defense committee and committee chair (Form 5B) through CGEC to OIGS)	Student (major professor)	At one (1) month before proposed defense date	__/__/__
7.	Schedule defense date with committee (including committee chair) and notify OIGS	Student	After Major Professor approves draft thesis	__/__/__
8.	Present Capstone Seminar	Student	Prior to defense	__/__/__
9.	Submit thesis and abstract in final form to defense committee	Student	Fourteen (14) days before scheduled defense date	__/__/__
10.	Defend thesis (Form 5-E to OIGS)	Student (committee chair)	As scheduled	__/__/__
11.	Submit corrected thesis and abstract to major professor and defense chairman for final approval and signing	Student	As scheduled at defense	__/__/__
12.	Submit thesis to FNRM Chair for approval and signing	Student	Before graduation	__/__/__
13.	Submit copies of thesis to OIGS for signatures and binding	Student	Before graduation	__/__/__
14.	Certify completion of all requirements (Form 9, through CGEC to OIGS)	Major Prof.	Before graduation	__/__/__

VII. THE DOCTOR OF PHILOSOPHY DEGREE

The Doctor of Philosophy (PhD) graduate degree program enables students to extend knowledge and expertise from their natural and social science background in their baccalaureate and masters degrees. The primary focus of the program is to provide an opportunity for graduates coming from diverse academic backgrounds to gain a science-based education in forest and natural resources management. Graduates will successfully function as researchers, educators, administrators, managers, and consultants and respond to the challenges related to the sustainable management of local, regional and global resources.

The program is open to both students with some prior background in forestry and natural resources and for those without such background. Students with degrees in a related discipline (e.g., ecology, biology, wildlife, chemistry, etc.) can complete the PhD degree in three (3) to five (5) years. Students with a general science background, but little or no forest or natural resources experience, will require more than five (5) years to complete the program.

The Department of Forest and Natural Resources Management (FNRM) uses a checklist to facilitate detailed program planning and to document of the steps required for graduation. Major professors keep a version of the checklist with student-specific information in their advising files. Each student is encouraged to keep an updated personal copy. Checklists are available in the FNRM Office (320 Bray Hall).

A few graduate students manage to complete their entire degree programs without having to file a single petition. However, because of our students' diverse backgrounds, interests, degree programs, and personal lives, many of our students occasionally find themselves in violation of some College or FNRM policy, or find a need to create proper documentation for their academic file. The correct vehicle to use is a Petition (see Appendix A for more information on petitions). Petition forms may be obtained from the Registrar's Office (111 Bray Hall).

Prerequisites

FNRM will accept no Ph.D. students without at least one graduate degree. Students are accepted into our programs with a variety of backgrounds. Deficiencies in undergraduate-level English, ecology, forestry, soils, or statistics may have been identified in your letter of admission. If not completed prior to matriculation, appropriate classes should be taken during residence. Either undergraduate or graduate courses may be taken to remedy deficiencies, depending on the circumstance. Undergraduate courses are not included in grade point averages, and do not count toward satisfying the minimum number of required graduate credit hours.

Transfer Credit

Up to six (6) credits of graduate coursework **not used to complete any other graduate degree** may be accepted toward completion of a doctoral degree as approved by your steering committee. Up to thirty (30) credits of graduate level coursework **earned as part of a conferred master's degree** may be transferred (by petition) toward your doctoral degree as approved by your steering committee. Students may transfer up to nine (9) credits of credit-bearing **non-degree ESF** graduate coursework (e.g., credit-bearing graduate coursework taken as a non-

matriculated ESF student) toward a doctoral degree. Credit hours appropriate to the graduate degree in which a minimum grade of B was earned from an accredited institution can be transferred to the college, but grades and grade points cannot be transferred. All transfer credit will remain tentative until official, final transcripts are received. In addition, all transfer credits must be approved by the steering committee and by the Graduate Education Committee via a petition. Research credits do not transfer.

Steering Committee

You will have a steering committee that provides advice about your coursework and other aspects of the program. The steering committee is composed of the major professor, who is assigned to the student at admission, and at least two other faculty members or other qualified persons. A new major professor, different from the assigned, can be assigned by submitting a new Form 2A (available from the ESF Office of Instruction and Graduate Studies (OIGS) (227 Bray Hall) and at www.esf.edu/graduate/graddegreq.htm). Two co-major professors count as two committee members. You, in consultation with your major professor, choose who will be on your steering committee during the first semester. Doctoral students must have a minimum of a major professor and two (2) steering committee members.

To have your steering committee assigned, you must submit Form 2A Steering Committee (available from OIGS (227 Bray Hall) and at www.esf.edu/graduate/graddegreq.htm). This form must be signed by the Chair of the Graduate Education Committee and recorded by the FNRM Graduate Education Secretary.

As a graduate student, you are responsible and accountable for your progress. You should meet at least once a year with your steering committee, but frequent informal meetings with your major professor and individual committee members are strongly encouraged.

Coursework Requirements and Guidelines

The PhD degree requires a minimum of sixty (60) total graduate credit hours. A total of forty-eight (48) hours in graduate coursework are required, of which twenty-four (24) credit hours must be taken in residence at ESF. PhD students must complete at least twelve (12) credit hours of thesis research credit (FOR 999: Doctoral Dissertation). Concurrent degree students may “double-count” twelve (12) credit hours toward their PhD degree. These general graduate requirements set by the College (see the College Catalog, available at www.esf.edu/catalog). Students develop programs of study to satisfy their coursework requirement in consultation with their major professor and steering committee. Coursework should provide a coherent body of theory, a set of appropriate methods to test that theory, and should focus on an important area of application beyond the specific work done for the graduate degree (see Appendix C for guidance in coursework).

In addition to the general graduate requirements, FNRM has established the following specific requirements:

Seminars

All PhD students must take two (2) topical seminars, at least one of which must be a FOR 797 topical seminar.

Capstone

All PhD students must present a capstone seminar on their thesis/dissertation work. The student's presentation in a FOR 797 course may be used as the capstone seminar if it is so advertised. You should submit all of your capstone information to the FNRM Office (320 Bray Hall). You will need to set up the time, date, and location of your capstone after checking with your major professor and steering committee members. This information must be given to the FNRM Secretary (Ms. Debra Sovocool, 320 Bray Hall), at least two (2) weeks in advance of your capstone. Capstones will not be scheduled with less than two weeks notice. Ms. Debra Sovocool will produce a flyer and have copies posted around campus.

600-level and Resident Courses

As noted above, PhD students must complete at least sixty (60) graduate credits (forty-eight (48) coursework credits and twelve (12) thesis research credits). Twenty-four (24) coursework credit hours must be at the 600-level or above. No more than four (4) credits of seminar can be counted as part of the twenty-four (24) 600-level or above coursework requirement.

Student Study Plan

After forming your steering committee, you ***must*** fill out Form 3B: Graduate Student Program (available from the Office of Instruction and Graduate Studies (OIGS) (227 Bray Hall) and at www.esf.edu/graduate/graddegreq.htm). This form ***must*** be signed by your major professor, all of the members of your steering committee, and the Chair of the Graduate Education Committee. This form ***must*** be completed by the end of the third semester. The FNRM Graduate Secretary (Ms. Kim Collins, 320 Bray Hall), records the form and forwards it to OIGS for approval. Once approved, Form 3B serves as an institutional endorsement of your graduate program of study and protects you by officially stating what courses you will complete and when you will complete them, and how you will complete your thesis requirements. Students that change their program of study ***must*** submit an updated Form 3B (signed by your major professor, all of the members of your steering committee, and the Chair of the Graduate Education Committee) to the FNRM Graduate Secretary.

Preliminary Examination

This examination assesses the students' basic knowledge in the chosen field of study. The results of this examination may be used to determine a student's suitability for a doctoral program, suitability for continuation in the doctoral program, or as a guide in selecting coursework and developing a program of study. The examination is optional; a student's major professor and steering committee determine if a student must complete this examination.

Dissertation Proposal

Before your research is very far underway, you ***must*** write a study proposal that documents your plan for dissertation work. The proposal should be given to your major professor and each member of your steering committee. You must also submit a copy to Ms. Tari Pittenger for your file record. As the proposal and plan is revised and added to, copies should again be provided to all committee members and your file. Your proposal should include: 1) a description of the study problem (significance and rationale), 2) goals and objectives for solving that problem, 3) a literature review discussing our current knowledge of the problem, 4) conceptual framework (theory and hypotheses) for the pursuit of new knowledge, and 5) detailed methods for achieving the objectives and testing the hypotheses.

Doctoral Candidacy Examination

After completion of the majority of graduate coursework, PhD students take a candidacy examination. To initiate your doctoral candidacy examination, you must complete Form 6B Request Chair of Doctoral Candidacy Exam (available at <http://www.esf.edu/graduate/docexam.htm>), submit it to the Chair of the Graduate Education Committee and forward the signed form to the Office of Instruction and Graduate Studies (OIGS). At least one (1) additional faculty member or other qualified person (a minimum of four (4) examiners are required for doctoral candidacy examination) must be added to the committee for the examination. The OIGS will officially appoint your committee and send you Form 6C. They also appoint a chair from another Department, who will oversee the administration of the exam. You should then contact all the members of the committee, including the chair, to schedule a planning meeting for your examination.

The objectives of this examination are to determine the breadth and depth of knowledge in the chosen field of study and assess the student's understanding of the scientific process. The doctoral candidacy examination is taken when the majority of coursework is completed and no more than three years from the first date of matriculation has elapsed or the student may be dismissed from the doctoral program. This examination must be taken at least one year prior to the dissertation defense. The examination must have both written and oral components.

The role of the examination committee chair is to manage the examination, ensure its integrity and represent the interests of the faculty and student. Any member of the faculty may be an observer. You may invite a silent student observer to attend the oral examination.

Written Examination: The examining committee shall convene at a planning meeting with the student. During the first part of the planning meeting, the committee determines the schedule for the process and establishes the date for the oral component. The student is then excused from the meeting and the committee develops and discusses the exam content. There are two alternative forms for the written component, as follows:

1. Form 1: The members of the committee submit questions or problems addressing the objectives of the exam. The questions are discussed and agreed upon at the planning meeting. The major professor administers the written examination. Usually, one-half day is allocated to questions submitted by each examiner. Upon completion by the student,

the examination questions are reviewed and graded by the committee members who prepared them. The committee then reviews the entire examination.

2. Form 2: The student prepares a written report on a topic or problem assigned by the examining committee. The topic or problem must meet the objectives of this examination and its content cannot be directly related to the student's thesis research. The student has approximately one month to develop a thorough understanding of the assigned topic and prepare a written report. The report is reviewed by the committee members and committee chair.

To schedule a doctoral candidacy examination, please complete the following steps:

1. In consultation with your major professor, complete Form 6B for your Department Chairperson to review, sign, and forward to the Office of Instruction and Graduate Studies. Form 6B should be submitted according to the academic year deadlines for defense exams.

The Dean of Instruction and Graduate Studies will assign a faculty member outside of your degree program to serve as chair of your examination committee.

2. When you receive a copy of Form 6C which officially appoints your examination committee, you must consult with all members of your committee (major professor, steering committee, additional examiner, and defense chair) to arrange a mutually convenient date, time, and location for a planning meeting.
3. You must inform the Office of Instruction and Graduate Studies of the agreed upon date, time, and location for your planning meeting at least two weeks in advance of the date. This Office will confirm in Form 6D these arrangements with all concerned individuals.
4. At the planning meeting, your exam chair and the committee complete Form 6E, the committee chair will sign it and return it to the Office of Instruction and Graduate Studies, which will distribute copies to you and the committee.

If you are using Form 1 of the examination, you and your major professor should arrange for a time and location to administer the questions. The last step is to meet with your committee and complete the oral examination at the designated date. At the end of the oral examination, your committee will ask you and any observers to leave the room while it determines if you have satisfactorily completed the doctoral candidacy examination. You will be invited back to receive the decision of the committee which will also be reported on Form 6F and returned by the exam chair to the Office of Instruction and Graduate Studies.

Dissertation

A focal point of doctoral graduate study is the dissertation. A dissertation is a document that clearly demonstrates your graduate level accomplishments. It details the results of your scholarly endeavor and is the subject of the dissertation defense. The dissertation defense must take place no less than one (1) year, and no more than three (3) years, after the candidacy examination. This is an important point that requires some planning on your part.

A PhD dissertation is different from an MS thesis in the depth and breadth of performance demonstrated. A PhD dissertation should portray that the student has: 1) a complete understanding of the state of knowledge in the field of study, 2) conducted a research program at

a conceptual level, often demonstrated by the reformulation or creation of theories with new knowledge developed as original work through the formulation and testing of hypotheses, and (3) demonstrated skills in research tool use (e.g., statistics) and methods. Dissertations that fulfill these aspects should lead to a number of refereed articles in highly influential journals.

FNRM accepts two dissertation styles: 1) the traditional style or 2) the manuscript style. The traditional style is described at www.esf.edu/graduate/thesisdiss.htm. Directions for preparation of a manuscript style dissertation is available in Appendix D. Examples of title page, abstract, and vita page are available at the web page noted above. PhD students and their major professors and steering committees decide which style – traditional vs. manuscript – is appropriate for each student.

Dissertation Defense Examination

The dissertation defense is conducted by your steering committee and two (2) or more additional examiners, for a minimum total examining committee of five (5) persons. In addition, the Dean of Instruction and Graduate Studies (OIGS) appoints a faculty member from outside FNRM to supervise the examination. Students must fill out Form 5B: Request to Appoint Defense of Thesis/Dissertation Examination Committee (available from the OIGS (227 Bray Hall) and at www.esf.edu/graduate/defense.htm) to appoint a thesis examination committee. When the OIGS receives the signed form, a chair will be appointed for the defense. You will then receive Form 5C, which officially appoints your committee, at which time you need to contact all members of the committee, including the chair, to schedule your defense.

The student is responsible for working with the major professor, OIGS, and all examining committee members to plan the examination and meet all deadlines for delivery of materials. Form 5B should be submitted to the OIGS at least one (1) month prior to the anticipated defense date. The student must inform OIGS of the agreed upon date, time, and location for the defense at least two (2) weeks in advance of the defense date.

A final draft of the thesis must be delivered to each member of the Defense Committee, including the Chair, at least fourteen (14) days prior to the scheduled defense date.

The Department of Forest and Natural Resources Management PhD Checklist

Step	Procedure	Responsibility	Target Date	Date Done
1.	Decide upon general area of study.	Student (in consultation with major professor)	First semester or before	__/__/__
2.	Propose steering committee (Memo through Chair of the Graduate Education Committee (CGEC) to Office of Instruction and Graduate Studies (OIGS).	Major professor (in consultation with student)	First semester	__/__/__
3.	Meet with steering committee to review progress and submit a written report to CGEC.	Student	Annually	__/__/__
4.	Meet with steering committee to discuss preliminary exam (optional).	Student	First year	__/__/__
5.	Complete preliminary exam (if required by committee).	Student	First year	__/__/__
6.	Meet with major professor and steering committee to determine appropriate coursework (Form 3B through CGEC to OIGS).	Student	First year	__/__/__
7.	Request appointment of doctoral candidacy examining committee (Form 6B through CGEC to OIGS).	Student (major professor)	At least 4 weeks before proposed exam date	__/__/__
8.	Meet with examination committee to schedule candidacy exam Form 6D to OIGS (Form 6E to OIGS).	Student (chair)		__/__/__
9.	Complete candidacy exam (Form 6F to OIGS).	Student (chair)	Minimum of 1 year before dissertation defense	__/__/__
10.	Prepare detailed proposal for dissertation research.	Student (in consultation with major professor & steering committee)		__/__/__
11.	Meet with major professor & steering committee to review research proposal. Copy final proposal to major professor, steering committee, and graduate education secretary.	Student		__/__/__
12.	Submit draft of dissertation to major professor for review, then to Steering Committee.	Student	As appropriate for projected defense date	__/__/__
13.	Request appointment of examining committee and committee chair (Form 5B through CGEC to OIGS).	Student (GEC)	At least one (1) month before proposed defense date	__/__/__
14.	Present Capstone Seminar.	Student	Before defense	__/__/__
15.	Schedule defense date with committee (including committee chair) and notify OIGS.	Student	After major professor approves draft dissertation	__/__/__
16.	Submit dissertation and abstract in final form to examining committee.	Student	Fourteen (14) days before scheduled defense date	__/__/__
17.	Defend dissertation (Form 5E OIGS).	Student (chair)	As scheduled	__/__/__
18.	Submit corrected dissertation and abstract to major Professor & defense Chair for final approval and signing.	Student	As scheduled at defense	__/__/__
19.	Submit dissertation to FNRM Chair for approval and signing.	Student	Before graduation	__/__/__
20.	Submit copies of dissertation and abstract to OIGS for signature and binding.	Student	Before graduation	__/__/__
21.	Certify completion of all requirements (Form 9, through GEC to OIGS).	Major professor	Before graduation	__/__/__

VIII. RESOURCES

FNRM Offices: 320 Bray Hall

Dr. David H. Newman is the Chair of the Department of Forest and Natural Resources Management (FNRM). His office is located in 320 Bray Hall. His phone number is 315-470-6534 and his email address is dnewman@esf.edu.

Dr. René H. Germain is Coordinator of FNRM Graduate Education Committee, which administers the MF, MPS, MS and PhD degrees. His office is located in 316 Bray Hall. His phone number is 315-470-6698 and his email address is rhgermai@esf.edu. Feel free to contact Drs. Germain and Newman regarding any questions, comments, or concerns about FNRM graduate programs.

Ms. Kim Collins is the Graduate Secretary. Her office is in 320 Bray Hall. Her phone number is 315-470-6675 and her email address is kcollins@esf.edu. Ms. Collins is the record keeper for the graduate program. She records changes your local address, phone number, etc. In addition, she monitors the status of various aspects of your program on a database. It is important to keep this office informed of all changes, additions, or deletions of information in your program.

Conference Rooms: 314 and 324 Bray Hall

Conference rooms in 314 and 324 Bray Hall can provide settings for meetings and seminars, including graduate student capstone seminars. The rooms may be scheduled for student meetings. During unscheduled periods these conference rooms are available for informal discussions and study.

Computer Access

SUNY-ESF, like most research and teaching institutions, is increasingly reliant on e-mail. All SUNY-ESF students have an email account assigned to them by the Registrar. This is your official email address. You should make sure that all members of your committee have your official email address and you have theirs. You are responsible for regularly checking your official email address for messages. Students that fail to do so will not receive important broadcast messages sent by faculty or the college.

Syracuse University has various computer facilities available for student use. Computer clusters at Syracuse University are described on their web site (<http://cms.syr.edu/labs>). At SUNY-ESF, computers are available in the Academic Computer Center in Baker Laboratory. In addition, FNRM maintains a computer cluster in 416 Bray. These computers are for use only by graduate student within FNRM. The entire campus is wired for Internet access. Networking is generally available in the various office rooms for Internet access.

Equipment

Students can borrow forestry and mensuration equipment to support class exercises and research. The equipment available includes a wide range of field gear, from wedge prisms to 100-ft tapes.

Loans of equipment can be arranged by contacting Mr. Jim Halligan in 415 Bray Hall (470-4752).

Mailboxes

You will be assigned a mailbox for your incoming college-related mail. Please have this mail sent to 320 Bray Hall.

Office Space

It has been the general practice of SUNY-ESF that graduate students are provided with desk space as needed. The process of securing desk/office space is facilitated by your major professor and the Department Secretary, Ms. Debra Sovocool.

Keys

Keys for office/desk space and related building access may be obtained by formal request to Ms. Debra Sovocool (320 Bray Hall). She will fill out cards and have them signed by FNRM's Chair (Dr. David Newman). For office door keys, student must take the card down to the Business Office (1st floor) where a \$5.00 refundable deposit will be charged. Students then take the receipts and the card to the University Police (19 Bray Hall) where the key will be ordered.

Assistantships, Fellowships, Awards, and Scholarships

Assistantships

FNRM offers two (2) types of assistantships: Graduate Assistantships and Research Assistantships. Each year, ESF awards Graduate Assistantships based on faculty recommendations. They are primarily used to assist professors teaching undergraduate courses. Each spring, students who will be returning in the fall are notified by the Chair of the Graduate Education Committee of the projected FNRM's Graduate Assistantship allocation and are formally requested to apply. Incoming students are also included in the selection pool. Application forms for Graduate Assistantships can be obtained from 320 Bray Hall. Each student must apply each year that support is desired. Graduate Assistantship assignments are decided in the Spring semester for the next academic year. Students may also apply in the fall for consideration for openings in the spring. If you receive a Graduate Assistantship, you are entitled to a discount of 10% at the Orange Bookstore in the Marshall Mall and at the University Bookstore in the Schine Student Center at Syracuse University. Discount letters may be obtained from 320 Bray Hall.

As a research university, SUNY-ESF is involved in numerous externally funded projects, many of which support graduate students through Research Assistantships. Each project is managed by a Principal Investigator, who is responsible for selecting staff, including Research Assistants. Students interested in Research Assistantships should discuss opportunities with their major professor.

Fellowships

Fellowships are awarded to students based on various competitive scenarios, usually involving an evaluation of a student's background, degree of accomplishment, and promise for future professional and personal development.

The Farnsworth Fellowships are presented to both an MS and PhD student who demonstrate and hold promise for scholarship and service in forest and natural resources management. The FNRM Graduate Education Committee selects this award's recipients. Students self-nominate for the Farnsworth award with letters of recommendation from selected professors. Historically, the Farnsworth Fellowships are awarded in the spring. Announcements for applications are distributed to students and faculty each year.

Awards and Scholarships

The Leaf Award is presented to a graduate student who has a record of and shows promise for research in forest and natural resources management. The FNRM Graduate Education Committee selects this award's recipients. Faculty members, usually their major professors, nominate students for the Leaf Award. The Leaf Award has been presented in the spring. Announcements for applications are distributed to faculty each year.

The Wolf Forest Policy Scholarship is to support a student pursuing studies related to the development of U.S. forest policy on the national level; or to support U.S. forest policy development activities of FNRM. An FNRM faculty member will nominate students for this scholarship.

The Marshall Award is presented to a graduate student who demonstrates aptitude and achievement in scholarship or research on wilderness and protected area policy and management. The FNRM Graduate Education Committee selects this award's recipients. Faculty members, usually their major professors, nominate students for the Marshall Award. The Marshall Award has been presented in the spring. Announcements for applications are distributed to faculty each year.

The Curtis H. Bauer Scholarship is presented to either an undergraduate (junior or senior) or an MPS or MF graduate student. Mr. Bauer made significant contributions to the forestry profession and forestry consulting industry in New York State. This award is for a student who demonstrates or show interest and potential in becoming a practicing forester or consulting forester. The FNRM Undergraduate and Graduate Education Committees select this award's recipient. Faculty members, usually the advisor or major professors, nominate students for the Bauer Scholarship. Announcements for applications are distributed to faculty each year.

The Jay and Olive Bentley Scholarship is to support graduate students in professional masters programs; namely, the MF and the MPS within FNRM. The FNRM Chair shall select recipients on the basis of financial need and academic merit.

The Edna Bailey Sussman Fund provides stipends to graduate students to support semester-long and summer internship experiences. Sussman fellowships support a broad range of interest areas,

including forest and natural resources management. Sussman applications are treated competitively. Awards are usually in the range of \$2,500-\$3,000. Interested students should request the document “E.B. Sussman Fund: How to Apply” from the Office of Instruction and Graduate Studies (227 Bray Hall).

College Properties

SUNY-ESF has four forested properties available for demonstration and research: the Svend O. Heiberg Memorial Forest, about 25 miles south of the main campus, and three properties in the Adirondacks: the James F. Dubuar Memorial Forest, the Archer and Anna Huntington Wildlife Forest, and the Charles Lathrop Pack Demonstration Forest. These properties are available for field studies. Consult with your major professor for possible opportunities associated with the properties.

Interdisciplinary Graduate Study and Concurrent Masters Degrees

FNRM encourages interdisciplinary graduate programs. You may select steering committee members from other SUNY-ESF Faculties or from Syracuse University. There are also more formal arrangements for joint study with other College Faculties and with Syracuse University. Programs that provide the student with a concurrent Masters degree from Syracuse University are available with the following SU schools:

- MBA with the School of Management,
- MPA with the Maxwell School of Citizenship and Public Affairs,
- Newhouse School of Public Communications,
- School of Education, and
- Applied Statistics MS degree.

Additional opportunities with other Syracuse University schools may be available upon consultation with the appropriate school at SU and the ESF Office of Instruction and Graduate Studies. These concurrent degree programs usually add a year to the normal program of study. To be eligible, a student must have: 1) matriculated full-time at ESF for at least one (1) semester, 2) a grade point average of at least 3.5, 3) be formally accepted into the concurrent degree program by the other School, and 4) file a petition with the Graduate Education Committee. Students in concurrent Master’s degree programs can “double count” six (6) credit hours towards their FNRM degree.

Appendix A: Petitions

Background

The petition process exists to provide needed flexibility in the curriculum. Students often encounter situations that require minor adjustments from the academic requirements. As such, petitions at ESF generally handle two basic kinds of actions: 1) variances to degree requirements and 2) transfer of credit from another institution after the admissions process is completed. Petition forms are available from the Registrar's Office. Before completing a petition form, meet with your major professor. Many simple problems can be solved with a memo from your major professor to the Graduate Education Committee.

Completing Petition Forms

Complete the petition forms legibly and clearly explain what you want to have happen. There are four parts of the petition form that must be completed:

1. Informational Heading. Be sure to complete the contact numbers and sign at the appropriate place (because of the layout, this is often omitted).

2. Request. This should be clear and concise. What is the variance being requested? What specific course (from what institution) is being transferred?

- Requests to substitute courses require the consent of the instructors.
- Often, the best way to fill out a petition is to write a simple memorandum and attach it to the petition form.

3. Justification. This should be clear, logical, and detailed. You want to include a reasoned justification for the request. Explain the rationale for your request. Clarity is important, but more detail is better than less. It is important to remember that those acting on the petition will only see what you have written as a justification for your request. If the request is a variance, what are the circumstances? If a course transfer, what requirement do you want the course to fulfill?

Depending upon what is being petitioned, you will want to include additional information here:

- Variances. The student to obtain any additional items that are helpful - letters of support or explanation from relatives, doctors, instructors, etc. - and to attach them to the petition before the advisor signs the petition.
- Course transfers. The student must attach a description of the course, obtained from a catalog, or the World Wide Web.

4. Signatures. Graduate petitions must be signed by your major professor, then brought to the Graduate Education Secretary (Ms. Kim Collins – 320 Bray Hall). The Graduate Education Committee acts on petitions at its weekly meetings. If approved, the Chair of the Graduate Education Committee Chair (not the FNRM Chair) will sign the petition and forward it to the Dean of Instruction and Graduate Study for final approval. The Dean may choose to consult with the Committee on Instruction (Academic Standards Subcommittee) before acting. If approved, the petition is forwarded to the Registrar, who makes the appropriate change in the record.

Additional Information on Common Petitions:

1. Transferring graduate credit from elsewhere. Up to six (6) credits of graduate coursework **not used to complete any other graduate degree** may be accepted toward completion of a master's or doctoral degree as approved by your steering committee. A student may not transfer any graduate coursework earned as part of a conferred master's degree toward an ESF master's

degree. Up to thirty (30) credits of graduate level coursework **earned as part of a conferred master's degree** may be transferred (by petition) toward your doctoral degree as approved by your steering committee. Students may transfer up to nine (9) credits of credit-bearing **non-degree ESF** graduate coursework (e.g., credit-bearing graduate coursework taken as a non-matriculated ESF student) toward a master's or doctoral degree. Credit hours appropriate to the graduate degree in which a minimum grade of B was earned from an accredited institution can be transferred to the college, but grades and grade points cannot be transferred. All transfer credit will remain tentative until official, final transcripts are received. In addition, all transfer credits must be approved by the steering committee and by the Graduate Education Committee via a petition. Research credits do not transfer.

Following matriculation at ESF, students who wish to take courses for credit at other colleges or universities (other than ESF or Syracuse University) must submit a petition *prior* to taking the course. You can transfer up to nine (9) hours of graduate credit from an accredited institution. If the petition is approved, the student must request the registrar at the other institution send a transcript directly to the ESF Registrar. To receive credit, a grade of "B" or higher must be earned. Before taking the course the student should:

- Obtain a course description or syllabus and submit it with the petition.
- Have the instructor of the ESF course review the proposed substitution and write a brief memo evaluating its applicability.
- Obtain a signature from the faculty advisor on the petition.

Credit can be transferred – if the grade is B or better – but the grade cannot be transferred, so it does not affect your ESF GPA.

2. Transferring from FNRM to another ESF Department. Both Departments need to sign the petition. Usually FNRM has no problem “releasing” you, so this half is primarily a notification process and a way to generate a piece of paper documenting the change in your FNRM file. The other Department may or may not require an abbreviated application.

3. Transferring from another Department into FNRM. FNRM treats this essentially the same as if you were applying from another institution. The Graduate Education Committee needs your original ESF Graduate Application, a new statement of interests describing what you want to study in FNRM, and a petition form.

4. Starting a concurrent degree program with Syracuse University (requirements in College catalog). This is one of the more complicated processes to petition because so many parties are involved. FNRM needs to understand how the second degree will impact your progress toward your original degree. The Office of Instruction and Graduate Studies needs documentation showing your eligibility. Finally, the Syracuse University department in which you are planning to study needs to know enough about you to make a decision. At a minimum, you will need to provide:

- 1) a new Form 3B with all the classes you plan to take for both degrees,
- 2) a current transcript,
- 3) the Concurrent Degree application form (available from the Office of Instruction and Graduate Studies), and
- 4) a completed petition form.

5. Extension of an Incomplete for a class. As for the extension for completion of degree requirements, you must describe what you have left to complete and when you expect to complete it. The petition must be accompanied by a current transcript. Multiple incompletes will be scrutinized more carefully than a single event.

6. Adding a Course After the Add Deadline. After the add date, about ten (10) days into the semester, students must petition to add a class. By that time, considerable material usually has been presented, and the instructor has the right to refuse admission. If the instructor approves the petition it is virtually always successful. Common late adds include research projects (FOR 798) or internships (FOR 895) that are developed later in the semester. Note: ESF charges additional fees for adding a course after the add deadline.

7. Dropping a course after the drop deadline. In contrast to late adds, no petition is harder to get approved than one to withdraw from a course after the drop deadline. Late drop petitions go automatically to the Academic Standards subcommittee, who look for some significant circumstance that occurred after the drop date (which is a couple months into the semester). Before filing such a petition, be sure you have read about the process on the Registrar's FAQ page (important enough to reproduce below).

Guideline Criteria for Successful Late Drops

A petition must exhibit a clear and significant mitigating or extenuating circumstance outside of "normal" and predictable distractions from college coursework, etc. Examples might include illness, injury, death in the immediate family, financial emergency, and others.

The mitigating or extenuating circumstance must occur after or extend beyond the college designated "drop deadline."

The mitigating or extenuating circumstance must be clearly the result of actions outside the control of the student, i.e. not self-inflicted hardship. Similarly, if the student is innocently a victim of poor advising or administrative mishandling, justifiable grounds for the petition may be found.

The clear message contained in these criteria should be "late drops are only justifiable under exceptional conditions." The drop deadline placed by the college (ESF, not SU - it differs in intent and date) is exactly that - normal drops are not accepted after that deadline. You may find it useful to see what isn't appropriate as well as knowing what is appropriate.

*The following are "typical" examples of petition justifications which would **not** be accepted:*

- *student missed the "drop deadline" by accident,*
- *student coursework load is too heavy,*
- *student is failing the course,*
- *student has missed too many classes or has fallen too far behind,*
- *student has changed major and the course is not required in the new major,*
- *student intends to retake the course later or at another college, or*

- *student gambles unsuccessfully in taking an exam or attempting a project on or after the drop deadline.*

Two other points are of noteworthy consideration: first, a late change to "audit" a course is considered equivalent to dropping, and all the above criteria apply; second, a petition to late drop is not approved until final review by the Dean of Instruction and Graduate Studies, and the Subcommittee on Academic Standards. Students petitioning for late drops should continue to attend class until they receive final notification of the subcommittee's action. Even if your advisor and instructor approve the petition, it is not officially accepted until the college has taken action.

Appendix B: MPS Course List

Student _____ Date _____

Requirements/Courses ¹	Credits
A. A graduate level course in statistics _____	_____
B. FOR560 Principles of Management (or equivalent; if waived, add 3 hours to E or F) _____	_____
C. FOR692 Capstone in Forest and Natural Resources Management _____	_____
D. Graduate course in environmental or scientific writing, or demonstration of ability (If waived, add 3 hours to E or F) _____	_____
E. At least 15 graduate credit hours in student's area of concentration ² 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____	_____ _____ _____ _____ _____ _____ _____
F. At least 3 graduate credit hours in quantitative methods, geographic information systems, or statistics 1. _____ 2. _____	_____ _____
Total (must be at least 30)	_____

¹ No course may be used to satisfy more than one requirement.

² No more than three (3) credits of a professional experience or internship (FOR898) may be used towards the thirty (30) credits.

Appendix C: Guidelines for Coursework in Theory, Research Methods, and Problems.

Selection of an appropriate program of study involves thinking well beyond the Department of Forest and Natural Resources Management (FNRM) and ESF's graduation requirements. Graduate study in science should include: 1) a body of knowledge, 2) a set of methodologies for testing the theoretical framework of that knowledge, and 3) an applied understanding of how the results are important to an identified user clientele or scientific peer group.

Theory is the body of testable hypotheses that compose an area of study. For the past century or more, academics have organized areas of study or disciplines around sets of common phenomena and bodies of theory and research methods used to explore these phenomena. Botany, chemistry, and economics are examples of major disciplines. Several forestry-specific sub-disciplines have emerged between professional and disciplinary interests, for example, tree physiology, silviculture, forest soils, and natural resource policy. In some cases, such as forestry and wildlife management, applied disciplines have formed at the intersection of the profession and discipline, such as wildlife ecology and forest economics.

In FNRM, we have four broad areas of study or applied disciplines:

- **Ecology and Ecosystems**
- **Management**
- **Economics, Governance and Human Dimensions**
- **Monitoring, Analysis and Modeling**

The first step in developing a program of study is to select the right area of study for you. In each area of study are some critical theories plus several subsets of theory, depending on your specific application.

Research methodology includes specific techniques for gathering data, such as using mass spectrometers, growth chambers, social survey instruments, sampling or experimental designs, or parameter estimates using regression or logit models. Methodology also includes development of a broad understanding of science, its philosophical dimensions, and the common sense of purpose and values across all forms of science.

Aiming research at important problems requires exposure to people who have already mastered the winnowing of scientific "wheat from chaff." This is the reason that both the MS and PhD program rely heavily on apprenticeship ties to major professors, committees, and faculties. It is also one reason that FNRM and ESF require seminar experience.

FNRM and ESF have a strong tradition of minimizing general requirements for graduate studies. Instead, the Department relies on the wisdom of major professors, committee members, and individual students to guide program development and selection of courses. The following guidelines, however, provide a framework for developing strong programs. Your program of

study should include two to four courses in each of three categories: theory, research methods, and important problems in forest resources management.

Theory:

- Broad theory appropriate to the area of study, and
- Applied theory for more specific focus

Research methods:

- General research methods and philosophy of science,
- Statistics (beyond APM 510), and
- Other research methods

Important problems in forest resources management:

- Additional seminar courses, and
- Integrative courses with professional students

Students who do not have an undergraduate degree in forest or natural resources management or a closely related subject may, at the discretion of their steering committee, be required to take additional courses to fulfill prerequisites for courses. The specific courses will be selected in light of academic and career objectives in consultation with the student's major professor.

Appendix D. Description of Manuscript Option for Writing MS Thesis and PhD Dissertation.

(adapted from a Department of Forest and Natural Resources Management Graduate Education Committee memo "Proposed Manuscript Option," dated April 23, 1993).

As an alternative to the traditional thesis, the Department of Forest and Natural Resources Management (FNRM) accepts manuscript-oriented submissions to fulfill, in part, the requirements of the MS and PhD degrees. The manuscript format is intended to facilitate the dissemination of graduate research findings in peer-reviewed journals. The manuscript format may be advantageous to graduates who will be evaluated based upon their publication record.

The difference between the two options is one of organization and structure; the same high standards of thesis quality, innovation and comprehensiveness are expected. The writing is expected to be more concise than in a traditional dissertation and the chapters intended for publication will omit extraneous material. Additional chapters or appendices should include material important to the larger body of work but not contained in the individual manuscripts. One (1) to two (2) manuscripts are expected for the MS thesis and two (2) to three (3) manuscripts are expected for PhD dissertations. Students are advised to discuss this option with their major professor and their steering committee before committing to this format. This option is not necessarily appropriate for all areas of study within FNRM.

FNRM makes the following specifications for students choosing the manuscript format.

The Manuscripts

Manuscripts must be written solely by the student. Although the manuscripts ultimately may be co-authored with other faculty or students, the graduate student is required to prepare a new and original manuscript for submission. As with all technical writing, the work will be judged on: 1) the importance of the contribution to the student's research field, 2) the technical soundness of the paper(s), and 3) the organization and style.

The manuscripts need not be submitted to a journal prior to the defense, but must be in a format that would make them acceptable to a journal editor. The student may initiate the submission process following the successful completion of each manuscript or following the successful defense.

The student must select a journal (a leading peer-reviewed journal in their field) and prepare the manuscripts following the guidelines set forth in that journal. The organization of most manuscripts will conform to the standard scientific style: introduction, methods, results and discussion; other styles may be appropriate in some disciplines. The introduction of each manuscript should identify the important question or issue that is the focus of the research in terms that can be easily understood by a general reader, especially in cases where the subject of the manuscript is highly technical and likely to be understood in detail only by specialists. Likewise, the discussion section of each manuscript should describe the inferences deriving from the work in terms that make their importance clear to the general reader.

Each manuscript within a thesis must stand on its own as a significant individual contribution. Unlike the traditional thesis, lengthy literature review sections are rarely appropriate. If the subject area of the manuscript has been reviewed recently, citation of said review(s) can replace an exhaustive review of the primary literature. In cases where a detailed literature review is necessary, this may be done in the Introduction section of the thesis, as described below.

The Thesis Introduction and Summary Sections

The manuscripts must be introduced and concluded with Introduction and Summary sections. These sections are critical to the synthesis of ideas presented in the manuscripts; they transform a set of manuscripts into a comprehensive body of original work deserving of a graduate degree. Therefore, substantial care and thought must go into the thesis Introduction and Summary sections.

The Introduction must place the full body of work in some historical context and adequately sets the larger research issues. It must then provide a rationale for the reader to follow the links between the separate manuscripts. In many instances, the Introduction section may provide a more substantive literature review than the individual manuscripts. The Summary must provide a synthesis of the research findings and draw conclusions beyond the scope of the individual manuscripts. The manuscripts must all be related. While they may report on different and separate studies, the Introduction and Summary must show that the works are integrated and related at a fundamental scientific level.

Appendix E: Professional Experience/Internship Guidelines

These are general guidelines to be followed by any student undertaking an internship for academic credit. These general guidelines can be supplemented or amended by the particular faculty advisor and student depending on special circumstances.

1. All internships for which academic credit is desired must be set up in advance of beginning the internship. If circumstances preclude this, then a meeting or discussion between the student, field supervisor, and faculty advisor must take place at the beginning of the internship period.
2. Students must complete, in consultation with the major professor and field internship supervisor, a FNRM Internship Agreement (see below).
3. One (1) credit is given for every 40 hour work period.
4. Students must maintain periodic contact (every two weeks) with their major professor during the internship. This can either be by phone, email, or regular mail.
5. Students must keep a journal in which they record the activities in which they participated, meetings attended, and observations about the organization they worked for.
6. Students must keep a record of all projects for which they have responsibility. This record consists of copies of written reports, display material, data analyses, etc.
7. At the completion of the internship, the student will prepare a written report that will address the following:
 - a. What organization did the student work for and what does that organization do?
 - b. What is the structure of the organization and what part of the organization did the student work for?
 - c. What did the student do during the internship? What were the particular things you learned on this internship?
 - d. How did the internship relate to the student's coursework? What different courses might you have taken or might now take after completing this internship?
 - e. How did the work you were engaged in relate to things such as: 1) measuring trees or forests, 2) managing trees or forests, 3) biological and physical factors, 4) policy making, 5) communicating, 6) ethics and leading, 7) problem solving, 8) other items.
7. At the completion of the internship, there shall be a one to two hour debriefing session which shall include the student and faculty advisor, and, if feasible, the field supervisor and another faculty member. During this debriefing the student will be asked questions such as those addressed in the written report.
8. The grade for the internship will be determined by the major professor and field supervisor based on student's performance on the job, depth of thinking, observations contained in journal, final written report, and any written or oral presentations.

Forest and Natural Resources Management Internship Agreement

Preparation of this agreement is the responsibility of the student. It must be typed and written clearly and concisely. Please refer to the guidelines for the Internship Agreement. It must be on file with all approval signatures prior to registration for credit.

Internship Title:

Approvals:

Student: _____ Date: _____

Faculty sponsor: _____ Date: _____

Field Supervisor: _____ Date: _____

Addresses:

Student:

Phone:

Street:

City, State, Zip:

Field Supervisor:

Alternate Supervisor:

Street:

Street:

City, State, Zip

City, State, Zip

Phone:

Phone:

Internship Objectives:

Scope of Work:

Anticipated Work Schedule:

Commencement: _____

Completion: _____

Credit Hours: _____ (One (1) credit is given for every 40 hour work period)

Necessary Skills:

Previous Experience:

Support Being Provided:

Evaluation Procedures:

Internship Evaluation

Supervisor: _____

Student: _____

Please rate the student intern on each of the characteristics listed below by circling the appropriate number: (1) Unsatisfactory, (2) Below Average, (3) Average, (4) Above Average, (5) Outstanding, and (6) Unable to Judge.

1. Ability to learn:	1	2	3	4	5	UTJ
2. Interest:	1	2	3	4	5	UTJ
3. Preparation of Assignments:	1	2	3	4	5	UTJ
4. Initiative:	1	2	3	4	5	UTJ
5. Quality of Work:	1	2	3	4	5	UTJ
6. Reaction to Criticism:	1	2	3	4	5	UTJ
7. Cooperation:	1	2	3	4	5	UTJ
8. Dependability:	1	2	3	4	5	UTJ
9. Judgment:	1	2	3	4	5	UTJ
10. Communication:	1	2	3	4	5	UTJ
11. Creativity	1	2	3	4	5	UTJ
12. Overall Evaluation:	1	2	3	4	5	UTJ

Where your expectations of the intern [] not met, [] met, or [] exceeded? How?

On the next sheet, please comment on the student's overall performance, including any strengths or weaknesses you feel are important.

Signature: _____ Date: _____

Appendix F: Department Directory*

- Eddie Bevilacqua**, Associate Professor: 301 Bray Hall, 315-470-6697, email: ebevilacqua@esf.edu. Forest Measurements and Statistics.
- Russell D. Briggs**, Professor: 358 Illick Hall, 315-470-6989, email: rdbriggs@esf.edu. Forest Soils and Silviculture.
- René H. Germain**, Professor: 316 Bray Hall, 315-470-6698, email: rhgermai@syrr.edu. Sustainable Forestry Systems, Forest Management.
- Diane Kuehn**, Associate Professor: 310A Bray Hall, 315-470-6561. email: dmkuehn@esf.edu. Recreation Resources Management, Tourism Planning, Commercial Recreation
- Robert W. Malmshimer**, Professor: 305 Bray Hall, 315-470-6909, email: rwmalmsh@esf.edu. Forest and Natural Resource Policy and Law.
- Charles A. Maynard**, Professor: 216 Marshall Hall, 315-470-6560, email: cmaynard@syrr.edu. Forest Genetics, Tree Improvement, Plant Tissue Culture and Transformation.
- David H. Newman**, Professor and Chair: 320 Bray Hall, 315-470-6534, email: dnewman@esf.edu. Forest Resource Economics and Policy.
- Christopher A. Nowak**, Professor: 317 Bray Hall, 315-470-6575, email: canowak@esf.edu. Silviculture, Intensive Forestry, Forest Vegetation Management.
- Ralph D. Nyland**, Distinguished Service Professor: 312 Bray Hall, 315-470-6574, email: rnyland@syrr.edu. Silviculture, Forest Practice.
- Stephen V. Stehman**, Professor: 322 Bray Hall, 315-470-6692, email: svstehma@syrr.edu. Statistics, Sampling.
- John C. Stella**, Assistant Professor: 344 Illick Hall, 315-470-4902, email: stella@esf.edu. Riparian and Stream Ecology, Water Resource and Watershed Management, River Restoration
- Philippe Vidon**, Associate Professor: 309 Bray Hall, 315-470-4765, e-mail: pgvidon@esf.edu. Hydrology, Biogeochemistry.
- Timothy Volk**, Research Associate: 346 Illick Hall, 315-470-6774, email: tavolk@esf.edu. Short Rotation Intensive Culture Forestry, International Forestry
- John E. Wagner**, Professor: 304 Bray Hall, 315-470-6971, email: jewagner@esf.edu. Forest Resource Economics.
- Ruth Yanai**, Professor: 210 Marshall Hall, 315-470-6955, email: rdyanai@syrr.edu. Forest Soils.
- Lianjun Zhang**, Professor: 323 Bray Hall, 315-470-6557, email: lizhang@syrr.edu. Forest Biometrics.

*FNRM faculty who serve as Major Professors