

# **GRADUATE STUDENT HANDBOOK**

Policies and Procedures for Graduate Studies

School of Forestry  
Northern Arizona University

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## CHAPTER 1 – INTRODUCTION

This handbook applies to all Master of Science, Master of Forestry, and Ph.D. students in the School of Forestry admitted for the Spring 2008 semester or later. Students admitted prior to this semester have the option of continuing under the previous requirements or these requirements.

The Graduate Student Handbook summarizes the requirements and responsibilities of faculty and graduate students in the School of Forestry at Northern Arizona University. It provides students and faculty with information needed to successfully complete or direct graduate programs. Detailed information regarding general Graduate College requirements is available in the on-line Graduate catalog (<http://www4.nau.edu/aio/AcademicCatalog/academiccatalogs.htm>) and on the Graduate College website (<http://home.nau.edu/gradcol/>).

Some of the information presented in those documents is duplicated here for clarity. The Graduate College has final authority on all policy matters. Changes in Graduate College policy usually automatically change School of Forestry policies and procedures.

**It is the student's responsibility to become aware of and adhere to all policies and requirements established by the Graduate College and the School of Forestry. The final responsibility for meeting all School, Graduate College, and University requirements and deadlines rests with the student.**

## CHAPTER 2 - ADMISSION TO GRADUATE PROGRAMS

### GENERAL ADMISSION REQUIREMENTS

**A minimum grade point average of 3.0 (on a 4 point scale) in all college and university work is required for admission.** The prospective Major Professor of an applicant may petition for admittance of a student with a lower grade point average. Such a petition must clearly explain why an exception should be granted.

**No student will be admitted to either the Masters or the Ph.D. programs without a faculty member in the School of Forestry agreeing to act as that student's Major Professor.** The Major Professor must be a regular member of the School's faculty. Applicants are encouraged to contact a professor in their field of interest in the School prior to application to establish a basis for acceptance.

All applicants must take the Graduate Record Examination (GRE) and arrange for submission of their scores to the Graduate College as part of the admission application. The School of Forestry requires successful applicants to score in the top 40th percentile of those taking each section (verbal, quantitative, and analytic writing) of the GRE (equivalent to  $\geq 60\%$  below as reported by GRE). Provisional admittance may be granted in special cases without GRE scores. The prospective Major Professor of an applicant may petition for admittance of a student with a lower score. Such a petition must clearly explain why an exception should be granted.

The Faculty of the School recognizes the difficulties that foreign students may face in taking the GRE. Foreign students may apply without GRE scores and be admitted in provisional standing if all other admission requirements are met. However, the GRE must be taken as soon as possible upon enrollment. Students who do not take the examination by the end of the second semester or do not meet the GRE requirements above, will have their provisional standing canceled and will be dropped from the Graduate program. The student's Major Professor in such circumstances may, however, petition for admittance of the student with a lower score. The petition must clearly explain why an exception should be granted.

**All international students applying to the Masters or Ph.D. programs who lack a college degree from the United States must take the Test of English as a Foreign Language (TOEFL) and arrange for submission of their scores to the Graduate College as part of the admission application.** Minimum TOEFL scores for admission are 80 on the internet-based exam, 213 on the computer-based exam, and 550 on the paper-based exam. Applicants who do achieve the minimum TOEFL score but meet other admission criteria may be admitted conditionally and required to complete the Program in Intensive English (PIE; <http://www.nau.edu/english/pie/>) in the first semester of enrollment.

## **ADMISSION REQUIREMENTS FOR THE MASTER OF FORESTRY (M.F.) AND MASTER OF SCIENCE (M.S.) PROGRAMS**

### ***REQUIREMENTS FOR STUDENTS WITH A BACHELOR OF SCIENCE DEGREE IN FORESTRY***

Successful applicants for the Master of Forestry and the Master of Science in Forestry Programs meeting all the general admission requirements detailed above, and having a Bachelor of Science degree in forestry or natural resources from a Society of American Foresters accredited program, will be admitted with regular standing.

### ***REQUIREMENTS FOR STUDENTS WITHOUT A BACHELOR OF SCIENCE DEGREE IN FORESTRY***

Successful applicants for the Master of Forestry and the Master of Science in Forestry Programs meeting all the general admission requirements detailed above, but not having a Bachelor of Science degree in forestry or natural resources from a Society of American Foresters accredited program, will be required to complete at least 15 semester hours of remedial coursework in forestry with an average grade of “B” or higher. The intent of these requirements is to assure that a student who graduates with a Master of Forestry or Master of Science in Forestry has a breadth of knowledge in forestry. The student's Thesis Committee or Major Professor may specify additional remedial requirements.

## **ADMISSION REQUIREMENTS FOR THE PH.D. PROGRAM**

Entrance to the Ph.D. program is contingent on a student having demonstrated competence in scientific research. A Master of Science (thesis option) serves as the standard for such demonstrated competence. Other advanced post-Baccalaureate degrees with demonstrated scientific research outputs equivalent to a Masters thesis may qualify a student for admission. Such equivalents may include a Masters of Arts with a thesis requirement, or a non-thesis Masters degree with research outputs such as primary author of peer reviewed publications. Students lacking a Masters degree or similar post-Baccalaureate degree can demonstrate competence in scientific research by having substantial research experience, such as authorship of peer-reviewed publications. Students seeking admission to the Ph.D. program should include in their applications an explicit statement of how their education and experience satisfies the intent of this requirement. Applicants for the Ph.D. program lacking a Masters or similar post-Baccalaureate degree must meet admission requirements for grade point average in all college and university coursework, and GRE scores, with no exceptions.

### ***REQUIREMENTS FOR STUDENTS WITH AT LEAST ONE DEGREE IN FORESTRY***

Successful applicants with at least one degree in forestry from a Society of American Foresters accredited program, and who meet all other admission requirements, will be admitted with regular standing to the Ph.D. program.

### ***REQUIREMENTS FOR STUDENTS WITHOUT AT LEAST ONE DEGREE IN FORESTRY***

Successful applicants without at least one degree in forestry from a Society of American Foresters accredited program, and who meet all other admittance requirements, will be admitted

with provisional standing to the Ph.D. program. These students must complete, at a minimum, 15 semester hours of remedial coursework in forestry with an average grade of "B" or higher. The student's Dissertation Committee may specify additional remedial requirements. These requirements must be successfully completed before the student can advance to Candidacy. Students become candidates for the Ph.D. degree when all required courses and written and oral exams are completed.

## APPLICATION PROCEDURES

All applicants must apply directly to the [NAU Graduate College](http://www.nau.edu/graduate) by submitting the on-line Application for Admission at <http://www.applyweb.com/apply/northazg>.

Additionally, all applicants must submit the following application materials:

- A) Scores for the General section of the Graduate Record Examination (GRE):** Applicants must request Educational Testing Services (ETS) to submit official GRE scores directly to the NAU Graduate College at the address below.
- B) TOEFL Scores (International Students Only):** International student applicants must request Educational Testing Services (ETS) to submit official TOEFL scores directly to the NAU Graduate College at the address below.
- C) Transcripts:** Applicants must request official transcripts of all college and university work to be submitted directly to the NAU Graduate College at the address below.
- D) Statement of Research Interests and Professional/Career Goals:** Applicants must submit a detailed Statement of Intent (250 to 500 words in length) that clearly defines the applicant's educational and professional background, interests, and career objectives. An electronic copy of this statement can be attached to the online application to the Graduate College, or can be mailed to the to the School of Forestry at the address below.
- E) Three letters of recommendation:** Applicants must have three letters of recommendation to support his or her application. Applicants are encouraged to arrange for recommendations from individuals with whom they have recent familiarity. All letters of recommendation are to use the form entitled "Recommendation for Graduate Study" found in the appendix of this document, or from our web site at <http://www.for.nau.edu>. Letters of recommendation can be submitted online to the Graduate College, or can be mailed to the to the School of Forestry at the address below.

For fall semester admissions, completed applications with all supporting documentation must be received by March 15. For spring semester admissions, completed applications with all supporting documentation must be received by October 15 of the previous year. Applications received after these dates, including those only partially complete, will receive consideration only after full consideration of completed applications received by the deadline.



Addresses for submission of application materials:

Northern Arizona University  
Graduate College  
P.O. Box 4125  
Flagstaff, AZ 86011-4125

Northern Arizona University  
School of Forestry  
Graduate Coordinator  
P.O. Box 15018  
Flagstaff, AZ 86011-5018

Additional information and application materials may be obtained via the internet and/or telephone at:

NAU Graduate College  
Phone: 928-523-4349  
Web: <http://www.nau.edu/gradcol>

NAU School of Forestry  
Phone: 928-523-4972  
Web: <http://www.for.nau.edu>  
Email: [GraduateStudies@for.nau.edu](mailto:GraduateStudies@for.nau.edu)

## **CHAPTER 3 - GRADUATE STUDIES COMMITTEE**

The establishment and review of School of Forestry graduate policies and procedures is the responsibility of the Graduate Studies Committee. This Committee will recommend to the faculty changes in this document when Graduate College policies change and when policies herein no longer serve the interest of the Forestry Graduate Program. The faculty must approve all policies and procedures. The Graduate Studies Committee can be a distinct committee, or can be combined with related committees in the School of Forestry, such as the Curriculum Committee, as desired by the Director and Faculty.

### **RESPONSIBILITIES OF THE GRADUATE COORDINATOR**

The Graduate Coordinator is a member of the School of Forestry faculty appointed by the Director of the School of Forestry.

1. Correspond with prospective School of Forestry graduate students.
2. Prepare reports and documents on graduate programs.
3. Represent the School of Forestry as necessary in relations with the Graduate College and the University Graduate Council.
4. Inform faculty in the School of Forestry of changing procedures and programs in graduate education at NAU.
5. Chair the Graduate Studies Committee.
6. Screen graduate student applications to the School of Forestry and make admission decisions. Determine if remedial coursework is required and the number of credits (Thesis/Dissertation Committee determines which courses are required.)
7. Provide guidance to graduate students and faculty about graduate policies.
8. Others as appropriate.

### **RESPONSIBILITIES OF GRADUATE STUDIES COMMITTEE**

1. Propose policy for graduate student responsibilities in assisting in instruction, research, and School of Forestry administration. Policy will be established by the faculty and approved by the Director of the School of Forestry.
2. Propose policy for financial support of graduate students in the School of Forestry.
3. Promote, through various media and student recruitment, those programs established above.
4. Monitor policies and programs and recommend changes as necessary to faculty of the School of Forestry and the Director of the School of Forestry for approval.

## **CHAPTER 4 - FULFILLMENT OF REMEDIAL REQUIREMENTS**

Graduate students, who have been admitted provisionally on completing remedial coursework, shall work with their committee and Major Professor to design a remedial coursework program that develops basic competency in the field of forestry. The intent of these requirements is to assure that a student who graduates with a Master of Forestry (M.F.), Master of Science in Forestry (M.S.), or Doctor of Philosophy in Forestry (Ph.D.) has a breadth of knowledge in forestry.

### **REMEDIAL COURSEWORK DISTRIBUTION**

The remedial coursework will be distributed in the following three areas (adapted from the Society of American Foresters Accreditation Standards):

#### **A. Forest Ecology and Biology**

**Minimum of 6 semester credit hours in the following subjects:**

Topics include taxonomy, distribution, and ecological characteristics of trees and other important plants; physiology of trees, including metabolism and growth; basic and applied genetics; ecological concepts and principles, including structure and function of ecosystems; soil formation, classification, composition, and properties; silviculture, including methods of establishing and controlling the composition, growth, and quality of forest stands, including fire ecology and use of fire; water in forest ecosystems, including plant-water relationships, watershed condition and forest water quality; entomology and pathology, including the study of representative forest organisms and the application of integrated pest management; and wildlife and fish biology and ecology.

#### **B. Management of Forest Resources, and Forest Resource Policy and Administration**

**Minimum of 6 semester credit hours in the following subjects:**

Integrated forest resource management at stand, system and landscape scales, with consideration of wood, forage, water, wildlife, fish, recreation, cultural, educational and aesthetic benefits; forest engineering, harvesting and utilization as appropriate to program goals.

This area of study integrates all aspects of forestry education. It provides the student with an understanding of the social, cultural, political, legal, economic, institutional, and historical influences on forestry. Topics should include policy development, administration, land and resource planning, budgeting, and financial and personnel management.

#### **C. Measurement of Forest Resources**

**Minimum of 3 semester credit hours in the following subjects:**

Topics include land measurement, geographic information systems, photogrammetry and remote sensing; sampling theory and methods; measurement of trees, forests, and forest

products; wildlife habitat assessment; measurement of water yields and quality; assessment of air quality and of the aesthetic, cultural, mineral, range, recreation, and wilderness values of forests.

## **NAU COURSES SATISFYING REMEDIAL COURSEWORK REQUIREMENT**

The following courses offered at NAU satisfy the remedial coursework requirement in the distribution categories as described.

### **A. Forest Ecology and Biology**

FOR 212	Trees and Forests of North America.....	2
FOR 213	Ecology and Management of Forest Soils .....	3
FOR 220	Introduction to Forest and Range Plants.....	2
FOR 240	Introduction to Conservation Biology .....	3
FOR 255	International Wildlife Issues.....	3
FOR 251	Introduction to Wildland Fire.....	3
FOR 270	Native American Ecology.....	3
FOR 282	Ecological Restoration Principles.....	3
FOR 313/314	Forest Ecology I and II .....	7
FOR 340	Environmental Hydrology .....	3
FOR 370	Indigenous Knowledge: Ecological Implications.....	3
FOR 398	Environmental Hydrology .....	3
FOR 443	Ecology and Management of Introduced Species.....	3
FOR 447	Human-Forest Interactions from Community Perspective.....	3
FOR 452	Forest Pathology .....	3
FOR 453	Forest Insects .....	3
FOR 454	Forest Health.....	3
FOR 479	Ecosystem Ecology.....	3
FOR 500	Ecosystem Science and Management Principles .....	3
FOR 504	Forest Wildlife Ecology and Management .....	3
FOR 521	Forest Soils.....	3
FOR 544	Landscape Ecology .....	3
FOR 550	Forest Tree Ecophysiology .....	3
FOR 552	Forest Tree Diseases .....	3
FOR 553	Forest Entomology.....	3
FOR 554	Integrated Forest Health.....	3
FOR 560	Wetland Ecology and Management.....	3
FOR 563	Watershed Hydrology .....	3
FOR 580	Ecological Restoration Principles.....	3

### **B. Management of Forest Resources, and Forest Resource Policy and Administration**

FOR 230	Multicultural Perspectives Env. Management.....	3
FOR 283	Forestry in the Wildland-Urban Interface.....	3
PRM 346	Wildland Recreation Management .....	3

FOR 315/316	Silvicultural Principles and Applications.....	6
FOR 323/6	Forest Management.....	13
FOR 351	Fire Monitoring and Modeling.....	3
FOR 360	Natural Resources Policy.....	3
FOR 381	Forest Ecosystem Management.....	3
FOR 382	Ecological Restoration Applications.....	3
FOR 415	Forestry in Developing Countries.....	2
FOR 442	Principles of Wood Science and Technology.....	3
FOR 443	Ecology and Management of Introduced Species.....	3
FOR 445	Wilderness Management.....	3
FOR 465	Watershed Restoration.....	3
FOR 493/593	Natural Resource Economics.....	3
FOR 500	Ecosystem Science and Management Principles.....	3
FOR 503	Management Science Modeling for Multi-Resource Management.....	3
FOR 515	Forestry in Developing Countries.....	2
FOR 504	Forest Wildlife Ecology and Management.....	3
FOR 520	Applied Forest Stand Dynamics.....	3
FOR 541	Wood Products.....	3
FOR 551	Fire Ecology and Management:Lab.....	3:1
FOR 560	Wetland Ecology and Management.....	3
FOR 573	Issues in Recreation Management.....	3
FOR 582	Ecological Restoration Applications.....	3
FOR 593	Natural Resources Economics.....	3

### C. Measurement of Forest Resources

FOR 211	Forest Mapping and Measurement.....	3
FOR 524	Aerial Photo Interpretation.....	3
GGR 320	Introduction to Remote Sensing.....	4
GGR 422	Remote Sensing Techniques I.....	4
GGR 423	Remote Sensing Techniques II.....	4
GGR 424	Remote Sensing Techniques III.....	2
GGR 433	Survey of Geographic Information Systems.....	4
FOR 525	GIS and Spatial Techiques in Forestry.....	3
STA 575	Applied Sampling.....	3

### SPECIAL CONSIDERATION

The Thesis (M.S. students) or Dissertation (Ph.D. students) Committee, or Major Professor (M.F. students) must approve the use of other NAU forestry courses for meeting remedial requirements. Other NAU courses that meet the intent of the remedial requirements will also be considered with approval of Thesis (M.S. students) or Dissertation (Ph.D. students) Committee, or Major Professor (M.F. students).

### REMEDIAL COURSEWORK AND DEGREE REQUIREMENTS

No course taken to meet degree requirements may count as fulfilling the remedial coursework requirement. No course that constitutes part of the maximum of 24 semester credit hours

allowed as transfer units into the Ph.D. program may count as fulfilling the remedial coursework requirement.

## **TRANSFER COURSES SATISFYING REMEDIAL COURSEWORK REQUIREMENT**

Transfer courses may be used to satisfy remedial coursework requirements if they meet the spirit and intent of the above described remedial coursework distribution areas. Any transfer course must have significant forestry content and must be analogous to a course that fulfills an upper division requirement of a professional forestry program. The use of transfer courses in a remedial coursework program must still adhere to the distribution requirements.

The student's Thesis (M.S. students) or Dissertation (Ph.D. students) Committee or Major Professor (M.F. students) must approve all transfer courses.

Coursework from a Society of American Foresters accredited forestry or natural resources program clearly satisfies the spirit and intent of the remedial coursework requirement, and must be placed in the appropriate distribution category in the remedial coursework program. Courses taken at universities outside the United States may be used as transfer courses to meet remedial coursework requirements as long as they meet the spirit and intent of remedial coursework requirements.

Students who have completed Peace Corps training in forestry may count this training as nine semester credit hours towards the remedial coursework requirement upon presentation of the necessary documents and with approval of the Major Professor. The remaining six semester credit hours of remedial work must include coursework in Area B (Management of Forest Resources and Forest Resource Policy and Administration) and Area C (Measurement of Forest Resources).

## **MAJOR PROFESSOR AND THESIS AND DISSERTATION COMMITTEE RESPONSIBILITY**

The Major Professor and Thesis or Dissertation Committee are expected to thoroughly evaluate the student's academic capabilities and preparation in order to develop the student's remedial coursework requirements. The 15 semester credit hours are a minimum requirement, and the Major Professor and Committee should decide if this requirement is sufficient. The Major Professor and Committee will develop with the student a recommended program that meets the student's remedial coursework requirements. The Major Professor and Committee shall review any transfer courses to be used to satisfy remedial coursework requirements to insure that they meet the spirit and intent of the above described competency areas.

The student's Program of Study submitted during the first semester of residence must include all required remedial coursework. After approval by the Thesis (M.S. students) or Dissertation (Ph.D. students) Committee, or Major Professor (M.F. students), the Program of Study and justification memo for any transfer credits must be submitted to the Graduate Coordinator for review prior to submission to the Director of the School of Forestry for approval.

## **GRADUATE COORDINATOR AND GRADUATE STUDIES COMMITTEE**

## **RESPONSIBILITY**

The School of Forestry Graduate Coordinator and Graduate Studies Committee will revisit the courses specified as fulfilling remedial coursework requirements on a regular basis, and review new courses and special offerings to help determine where they fit in remedial coursework categories. The Graduate Coordinator will review all Programs of Study that contain remedial requirements and justification memos for transfer credits used to satisfy remedial requirements. The Graduate Coordinator will forward Programs of Study that clearly meet the spirit and intent of remedial requirements to the Director of the School of Forestry for approval. Approved Programs of Study will be forwarded to the Graduate College by the Graduate Coordinator. Programs of Study that do not clearly meet the spirit and intent of remedial requirements will be returned to the student for revision.

## **CHAPTER 5 - MASTER OF SCIENCE IN FORESTRY (THESIS OPTION)**

### **THESIS COMMITTEE ESTABLISHMENT**

The Graduate Coordinator will recommend to the Director of the School of Forestry one member of the School of Forestry tenure-track faculty or a Research Professor working full time in the School of Forestry to serve as the student's Major Professor. The Major Professor, in conjunction with the student, will recommend to the Graduate Coordinator two or more additional faculty members to serve on the Thesis Committee. Members of the Thesis Committee must be NAU tenure-track faculty or NAU adjunct faculty with expertise that will substantially contribute to the thesis project. In addition to the Major Professor, at least one other committee member must be faculty or adjunct faculty in the School of Forestry.

The Director of the School of Forestry must approve the Major Professor and Thesis Committee. Adjunct faculty may serve as members of the Thesis Committee, but not as the Major Professor. Once a committee has been established, faculty who retire may continue to serve on the thesis committee. The Thesis Committee should be established during the first semester that a student begins coursework.

### **THESIS COMMITTEE RESPONSIBILITIES**

The Thesis Committee has the following responsibilities:

1. To thoroughly evaluate the student's academic capabilities and preparation in order to develop the student's coursework requirements.
2. Approve the nature and scope of the thesis problem to be studied.
3. Approve the Program of Study including the assignment of all remedial and required coursework.
4. Meet with the student during the first semester of coursework, and at least once a year thereafter, to assess the student's progress in coursework and the thesis.
5. Review and approve the student's thesis, participate in the final oral defense of the thesis, and certify that the student has successfully completed the Program of Study.

### **THE ROLE OF THE MAJOR PROFESSOR**

The Major Professor is expected to carry out the following functions for each graduate student advisee:

1. Function as research advisor, counselor, and mentor for the student. The Major Professor will work very closely with students in all aspects of the graduate program.
2. Working with the student, recommend to the Graduate Coordinator, two faculty members



to serve as members of the student's Thesis Committee.

3. Working with the student, establish a program of courses for the first semester prior to the establishment of the Thesis Committee.
4. Develop, with the student, a recommended Program of Study that meets the needs of the student and the requirements of the graduate program.
5. Ensure that the Thesis Committee meets periodically and functions effectively.
6. Review and approve the student's thesis before submitting it to other members of the student's Thesis Committee.
7. Keep the student informed about what must be done to move smoothly through the graduate program.
8. Organize and administer the student's final oral defense of thesis.
9. Approve the student's application for graduation.

## **PROGRAM OF STUDY**

By the end of the first semester of coursework the Major Professor, in consultation with the Thesis Committee and the student, must submit an approved Program of Study to the School of Forestry Graduate Coordinator and the Graduate College. The Program of Study contains a planned series of coursework and academic experiences outlined for each student. It clearly specifies required courses and lists a tentative thesis topic. The Thesis Committee, Graduate Coordinator, and Director of the School of Forestry must approve the Program of Study, including any revisions of the Program of Study. Once a Program of Study has been approved, a student is expected to adhere to the Program.

The Program of Study form, including any revised Programs of Study, must be copied to the Graduate Coordinator, the graduate student's file in the School of Forestry office, the Major Professor, all members of the student's Thesis Committee, and the Graduate College.

## **M.S. COURSEWORK REQUIREMENTS**

The Major Professor and the Thesis Committee in consultation with the student determine the courses required for each graduate student.

The following rules should be considered:

1. The Master of Science in Forestry requires 32 semester credit hours including 8 hours of thesis. A minimum of 24 semester credit hours of formal coursework is required. No remedial coursework may satisfy these requirements.
2. For the thesis program all students must take, at a minimum, the 32 credit hours listed below, as well as any required remedial coursework:

- FOR 505 Forestry Seminar Series (1)
  - FOR 690 Research Methods (3)
  - FOR 692 Proseminar (2)
  - STA 570 Statistical Methods I (3) plus 3 hours from:
    - STA 571 Statistical Methods II (3)
    - STA 572 Multivariate Statistical Methods (3)
    - STA 574 Categorical Data Analysis (3)
    - STA 676 Experimental Design (3)
    - BIO 682 Quantitative Biology (3)
    - SOC 655 Quantitative Analysis (3)
    - Another graduate-level (500-, 600-, 700-) course with significant content in statistics.
  - 12 hours of formal coursework chosen in consultation with the major professor and thesis committee
  - Eight hours of FOR 699, thesis credit (note: more than eight hours of thesis may be taken, but only eight hours may be counted toward coursework requirements)
3. All graduate students must maintain a GPA of 3.0 or better. Only six hours of grade C are acceptable on the Master's degree program. A grade below C does not earn graduate credit.
  4. No graduate credit is allowed for courses numbered 100-399. With the approval of the Thesis Committee, up to two 400-level courses may be used on a Master's degree program.
  5. The maximum graduate course load is 16 hours/semester. Graduate research assistants may take only 12 hours/semester. The minimum course load for full-time graduate students is 9 hours/semester. Graduate assistants must be full-time graduate students (i.e., must maintain a course load of 9 - 12 hours/semester).
  6. Graduate students working independently, such as writing their theses, are required to be registered for at least one credit of FOR 699, thesis credit, each semester, including the semester of graduation. The number of credit hours of enrollment in FOR 699 should reflect the level of demand on faculty time. Students working with their Major Professor on a regular basis should enroll for three credit hours of FOR 699.
  7. Contingent on approval of the Major Professor and Thesis Committee, up to 25% of the credits required for the M.S. degree may be transferred to NAU from another graduate institution. Transfer courses used to meet degree requirements must be submitted to the Graduate College using the Petition for Transfer Credit Form (<http://home.nau.edu/gradcol/forms.asp>). The Graduate College must approve all use of transfer courses to meet degree requirements.
  8. A graduate student may not repeat a course and have the second grade substituted for the first grade. A graduate student, however, may repeat a course, but both grades are used in computing the grade point average.

## **RESEARCH PROPOSAL**

All students in the Masters program must prepare a detailed proposal for their thesis research. The proposal demonstrates that the student has reviewed the literature and outlines in detail how the research will be conducted.

The proposal should be completed by the end of the second semester of regular graduate coursework. A major objective of Forestry 690 (Research Methods) is to provide the skills and guidance necessary for each student to complete a successful research proposal. Research Methods is required of all Master of Science students and fulfills the research proposal requirement.

## **THESIS REQUIREMENTS**

The purpose of a thesis is to give the student experience in carrying out the kind of research he or she may expect to do throughout a professional career. A thesis involves a significant amount of investigation of the literature. It may involve a re-examination or re-evaluation of information generated by others in an effort to confirm or review their conclusions. It may also involve generating new knowledge through original research. In any event, it is intended to demonstrate ability to work independently on a problem, wide familiarity with the literature in the field of the program, command of the techniques and the principles of research, and ability to form valid generalizations from the data used.

No acceptable or unacceptable length to a thesis exists; the nature of the subject must determine the amount of writing necessary. In general, the acceptability of a thesis can be measured by asking whether the study would be suitable for publication in a national refereed research journal in the field. Graduate students in the School of Forestry are expected to prepare at least one draft manuscript suitable for publication before graduation .

Detailed thesis format requirements are specified in "The Format Manual" available from the Graduate College. Each graduate student must ensure that their thesis meets general university requirements by working with the Graduate College's Format Editor. Theses in manuscript format are acceptable to the Graduate College and endorsed by the Forestry faculty.

Theses in manuscript format should have all of the same basic components that occur in a normal thesis. The main distinction of a manuscript format thesis is that within the context of the thesis there are one to several distinct manuscript chapters. The intent of the manuscript chapter format is to facilitate the preparation of manuscripts for submission to professional journals while completing the thesis requirement.

A manuscript format thesis has the usual introduction and literature review (of the entire thesis), then is divided into chapters or manuscripts. Each chapter has a title, preface, abstract, introduction, materials and methods, results, discussion, and literature cited section. The preface is an explanatory statement to aid the reader to understand how the manuscript fits the remainder of the thesis. Following the individual manuscript chapter(s) there is an overall summary of the entire thesis project. Some redundancy may exist in the thesis to maintain integrity of the individual manuscripts, but this should be kept to a minimum.

There may also be slight variations in style between manuscripts reflecting different journal requirements. The non-manuscript portion of the thesis should have consistent style. Students are advised to visit with the Graduate College Format Editor well in advance of preparing their thesis.

The following schedule for thesis completion is required of all students:

1. The first draft of the thesis must be provided to the Major Professor at least eight weeks prior to graduation. The Major Professor must review the thesis and return to the student for revision. The thesis should be submitted for format review by the Graduate College at this time.
2. The revised thesis is to be submitted to the Thesis Committee at least six weeks prior to graduation. The Committee will review the thesis within two weeks. If a Committee member determines the thesis to be inadequate they may return it to the student with requested revisions.
3. The final revised draft of the thesis should be submitted to the Major Professor at least four weeks prior to graduation. Students are expected to carefully consider the comments of their Thesis Committee. The Major Professor has responsibility to ensure that the recommendations of the committee are incorporated into the revised thesis. The Major Professor has final responsibility for thesis approval.
4. Four final copies of the approved thesis, including format review, should be submitted to the Graduate College by the College's deadline (typically the last day of finals week in the semester). The student is responsible for all costs associated with thesis production and binding. Students must register for at least one credit of thesis for each semester after the defense until final copies of the thesis are submitted to the Graduate College, including summer semester. In addition, each student should submit an electronic copy of the thesis to the School of Forestry by emailing it to GraduateStudies[at]for.nau.edu. If the final thesis document is too large to send as an email attachment, student should obtain help from the School of Forestry Information Technology staff.

Students should be aware that this is the minimum acceptable time for each review step. The Graduate College estimates the average time required to complete the thesis is three months following approval of the format by the Graduate College. Consequently, students are advised to arrange their first format review with the Graduate College Format Editor in the first two weeks of the semester they plan to complete the thesis.

## **FINAL EXAMINATION**

A final examination, or defense, of the thesis is required for all Master of Science candidates. The defense consists of two components: 1) presentation, 2) oral examination. The presentation component is open to all students, staff, and the public. In the presentation component the student orally present an overview of the objectives, methods, results, and implications of the thesis research. Questions from the audience are permitted within the 60 minute maximum presentation period. Non-faculty must leave the examination following the presentation.

The oral examination will start about 15 minutes after the presentation. The examining committee must consist of at least the Thesis Committee. Faculty who are not on the Thesis Committee may attend the oral examination, but cannot vote on the student's performance. The Major Professor has the responsibility to ensure that the examination is conducted in a fair and appropriate manner. The Major Professor will direct questions from the examining committee to the student. Questions will be limited to the thesis or general knowledge related to the thesis. Extended detailed answers from the student in response to questions are expected. Oral examination questions should be designed to allow the students to demonstrate their ability to integrate and apply information gained from coursework and the thesis research project.

Following the examination period (maximum time two hours) the student will be asked to leave the room, while the Major Professor leads a discussion of the examination. All faculty members may discuss the student's performance. However, only members of the student's Thesis Committee can vote whether to pass or fail the student. A 2/3 majority of the Thesis Committee members is required for the student to pass the examination. Students will be notified immediately as to the outcome of the examination. The Major Professor must submit a "Report on Final Examination for Masters Degree" to student's file in the School of Forestry office and to the Graduate College following the examination. The Report must be signed by all members of the Thesis Committee, the Graduate Coordinator, and the Director of the School of Forestry.

The following rules apply to the final oral examination:

1. The examination must be announced to the faculty (via memo or email) at least one week in advance. The exam announcement should be made to other appropriate departments. A copy of the thesis shall be available to all faculty one week in advance.
2. The final examination is open to faculty, but is closed to other graduate students. However, graduate students may attend the presentation part of the final examination.

Table 1. Recommended Time Line for Master of Science (Thesis Option)

By no later than ...	Required activity or status:
The end of the first semester	<ul style="list-style-type: none"> <li>• Thesis Committee formed and meets</li> <li>• Program of Study developed and approved by Thesis Committee</li> </ul>
The end of the second semester of coursework (unless remedial course requirements preclude)	<ul style="list-style-type: none"> <li>• Research proposal prepared (FOR 690 taken)</li> </ul>
The end of the next to last semester of coursework	<ul style="list-style-type: none"> <li>• Apply for graduation</li> </ul>
Eight weeks prior to graduation	<ul style="list-style-type: none"> <li>• Draft of thesis to Major Professor</li> <li>• Draft of thesis to Graduate College for format review</li> </ul>
Six weeks prior to graduation	<ul style="list-style-type: none"> <li>• Revised draft of thesis to Thesis Committee</li> </ul>
Four weeks prior to graduation	<ul style="list-style-type: none"> <li>• Final revised draft of thesis to Major Professor</li> <li>• Thesis submitted to Graduate College for second format review (if required)</li> </ul>
One week prior to graduation	<ul style="list-style-type: none"> <li>• Final copies of thesis submitted to Graduate College</li> <li>• Final oral examination</li> </ul>

## **CHAPTER 6 - MASTER OF FORESTRY (NON-THESIS OPTION)**

This 33-hour program prepares you for a career in forest management, in contrast to a career in research. It is appropriate for students who desire advanced training in forestry, but not a research focus. The Master of Forestry degree is also offered as the Peace Corps Master's International Option and the Tropical Field Study Option.

The program of study involves a minimum of 30 semester hours of coursework plus three hours of credit for the professional paper, plus any remedial coursework required as part of the admission, and is designed by the student in consultation with the student's Major Professor whose interests complement those of the student. The student's program of study includes core courses, as specified below, plus a selection of courses tailored to the student's personal interests. The development of both oral and written communications skills is an integral and essential part of the program.

The Master of Forestry degree includes the preparation and presentation of a professional paper, rather than a research thesis, on a subject relating to forest management. The successful completion of academic coursework and preparation of the professional paper lead to a Master of Forestry degree.

The Graduate Coordinator will recommend to the Director of the School of Forestry one member of the School of Forestry tenure-track faculty or a Research Professor working full time in the School of Forestry to serve as the student's Major Professor. During the admission process, the Graduate Coordinator attempts to match the student's expressed interests with those of a faculty member.

### **PROGRAM OF STUDY**

A Program of Study form, approved by the Major Professor, the Graduate Coordinator, and the Director of the School of Forestry, must be submitted to the student's file in the office of School of Forestry, the Major Professor, and the Graduate College no later than the end of the first semester of coursework after the student has been fully admitted. Each student is required to maintain a 3.0 grade-point average for all courses taken and must also maintain a 3.0 grade-point average for all courses required in the student's program. Only six semester hours of graduate coursework with a grade of "C" are acceptable on the Master of Forestry program.

### **M.F. COURSEWORK REQUIREMENTS**

The courses required for each graduate student are determined by the Major Professor in consultation with the student.

**Required Courses (6 hours):**

FOR 505	Forestry Seminar Series	1
FOR 692	Pro Seminar	2
STA 570	Statistical Analysis I, or one, three-credit hour graduate-level course with significant content in statistics	3

**Core Courses (8-9 hours):**

8-9 hours of core courses, with one course from each of the following subject areas: 8-9

Ecosystem science: FOR 500, 504, 515, 520, 521, 544, 550, 551, 552, 553, 554, 560, 563, 579, 580, 582, 604, 611, 620, and 625 and MAT 542 and 543

Forest management sciences and economics: FOR 500, 503, 524, 525, 530, 541, 542, 551, 565, 573, 590, 593, 603, and 633

Forest social science: FOR 515, 573, and 605; POS 555, 658, and 659; GGR 576

Courses offered as Special Studies in Forestry (FOR 506), Advanced Studies in Forestry (FOR 695), special topics courses, or other courses offered by the School of Forestry or other departments that are clearly related to the subject areas can be used as core courses with approval by the Major Professor.

**Elective Courses (15-16 hours):**

You must take 15-16 hours of electives, chosen in consultation with your Major Professor. 15-16

**Professional Paper (3 hours):**

FOR 689	Professional Paper	3
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**TOTAL REQUIRED:** 33

**COURSE LOADS**

For graduate students, 9 credit hours during fall and spring semesters and the 10-week summer session are considered to be full-time enrollment. The minimum full-time course load is 9 credit hours during fall or spring semester, and 16 hours is the maximum (12 hours for graduate assistants).

**THE PROFESSIONAL PAPER**

Each student will prepare a professional paper (FOR 689 Professional Paper) under the guidance of the Major Professor. The professional paper will serve as a capstone exercise that will help



students integrate knowledge and information from courses and other information to produce new insights on forest management. The professional paper will serve as the written comprehensive exam required under the “Comprehensive Examination Plan” for Master’s degrees at NAU.

## **REQUIREMENTS OF THE PROFESSIONAL PAPER**

1. The final product must be a manuscript of length appropriate for submission to a professional journal and judged by the Major Professor and the graders of the paper to represent "publishable quality" with respect to a relevant refereed journal. Actual publication, with the Major Professor as co-author, is encouraged but not required.
2. The paper should have a forest management orientation. It may address a specific forest management field problem, or it might have a more philosophical or theoretical orientation. Examples of professional paper topics might include the following:
  - an article describing the forest management philosophy and practices of Native Americans;
  - a literature review relating to specific forest management policies or activities of an agency such as the USDA Forest Service;
  - an analysis of the potential application of forest management principles to community forestry in the tropics;
  - a paper describing the utility of technology such as an electronic spreadsheet or geographical information system for solving forest management problems;
  - an analysis of potential local, regional, national, or international economic impacts associated with forest management as compared to commodity-oriented management;
  - an analysis of a complex local, regional, national, or international natural resources problem that has implications for forest management;
  - a compilation of background material that might form the basis for a research proposal relating to forest management;
  - results of pilot studies or establishment of research methodologies for future analysis.

## **IDENTIFYING THE TOPIC FOR THE PROFESSIONAL PAPER**

The student and the Major Professor will jointly identify a topic to be used for the student's professional paper. The subject of the professional paper may be suggested by either the student or the Major Professor, but must be agreed upon by both. The student should consult the Major Professor regularly during the preparation of the professional paper.

## **COMPLETING THE PROFESSIONAL PAPER**

In the student's last semester, the Major Professor will recruit two other faculty or resource professionals to serve as graders of the professional paper. At least one grader must be faculty in the School of Forestry, and at least two graders must be faculty or adjunct faculty at NAU. If desired, one grader may be a non-faculty professional working in forestry or a related discipline. The graders, including the Major Professor, will critique and approve an outline and scope of the professional paper within the first two weeks of the student's enrollment in FOR 689, and review and approve the paper, which is due the last day of class in the semester of student enrollment in FOR 689. A 2/3 vote of approval by the grading committee is required for the student to pass FOR 689, on a pass/fail basis.

The student must submit three unbound, unstapled copies of the professional paper, with the title page signed by all graders, to the School of Forestry Graduate Coordinator. The title page must include separate lines for: Title, Author's name, the words "Professional paper submitted in partial fulfillment of the requirements for the degree of Master of Forestry", the words "Northern Arizona University", Month and Year, the word "Approved", and typed names and dated signatures of the 3 graders. The paper must be printed on acid-free paper, with 1" margins (right, left, top and bottom), all pages (except title page) numbered, Times Roman font, and font size 12. At the discretion of the Major Professor, the paper may be single- or double-spaced, and single- or double-sided. The School of Forestry shall spiral bind the three copies and distribute one copy each to the Major Professor, student, and School of Forestry library. Students may choose to have their professional paper hard bound at their own expense.

In addition, each student shall submit an electronic copy of the professional paper to the School of Forestry by emailing it to GraduateStudies[at]for.nau.edu. The student should obtain help from the School of Forestry Information Technology staff if the document is too large to send as an email attachment.

## **PRESENTING THE PROFESSIONAL PAPER**

A final presentation of the professional paper is required of all Master of Forestry students. The presentation is open to all students, staff, and the public. In the presentation the student will present an overview of their professional paper (approximately 40-45 minutes) and allow 15-20 minutes for questions from the audience. One copy of the professional paper should be placed in the mailroom at least one week prior to the final presentation to allow review by faculty, staff, and other students.

## **MASTER OF FORESTRY, PEACE CORPS MASTER'S INTERNATIONAL OPTION**

The NAU School of Forestry, in partnership with the Peace Corps offers a Peace Corps Master's International Program (PCMI). PCMI offers a unique opportunity to combine Peace Corps service with a Master of Forestry (MF) degree. The PCMI program is an option within the Master of Forestry degree and all policies and procedures for the MF degree apply to the PCMI program except as noted below.

A typical PCMI program at NAU begins in fall semester when a cohort of students enters the first academic part of the program. Students take two semesters (9-16 credits) of graduate forestry course. Following two semesters of preparatory classes, students enter Peace Corps and begin three months of language, culture and technical training. The Peace Corps technical training in forestry may be used to partially meet remedial course requirements (see previous chapter on meeting remedial requirements).

After the Peace Corps in-country two year experience students return to NAU for one semester to complete their professional paper and additional course requirements based on their Program of Study. Students receive three credits for preparation of a Professional Paper based on their Peace Corp experience. An additional three credits can be earned for completing FOR 695 (advanced studies) on some technical aspect of their in-country assignment.

Financial Assistance special consideration: Students in the PCMI program are eligible for a wide array of financial assistance available at NAU. A special PCMI Assistantship is available. This assistantship provides a \$5,000 stipend for nine months, waiver of the difference between out-of-state and in-state tuition and health insurance. Partial waiver of in-state tuition is also possible. Students receiving the PCMI Assistantship are required to work ten hours per week in various projects at the discretion of the Major Professor.

## **M.F. COURSEWORK REQUIREMENTS – PEACE CORPS MASTER’S INTERNATIONAL OPTION**

The courses required for each graduate student are determined by the Major Professor in consultation with the student.

### **Required Courses (9 hours):**

FOR 505	Forestry Seminar Series	1
FOR 515	Forestry in Developing Countries	3
FOR 692	Pro Seminar	2
STA 570	Statistical Analysis I, or one, three-credit hour graduate-level course with significant content in statistics	3

### **Core Courses (8-9 hours):**

8-9 hours of core courses, with one from each of the following subject areas: 8-9

Ecosystem science: FOR 500, 504, 520, 521, 544, 550, 551, 552, 553, 554, 560, 563, 579, 580, 582, 604, 611, 620, and 625, and MAT 542 and 543.

Forest management sciences and economics: FOR 500, 503, 524, 525, 530, 541, 542, 551, 565, 573, 590, 593, 603, and 633.

Forest social science: FOR 573 and 605; POS 555, 658, and 659; GGR 576

Courses offered as Special Studies in Forestry (FOR 506), Advanced Studies in Forestry (FOR 695), special topics courses, or other courses offered by the School of Forestry or other departments that are clearly related to the subject areas can be used as core course with approval by the Major Professor.

**Elective Courses (12-13 hours):**

You must take 12-13 hours of electives, chosen in consultation with your Major Professor. 12-13

**Professional Paper (3 hours):**

FOR 689 Professional Paper 3

**TOTAL REQUIRED:** 33

**Course Loads**

For graduate students, nine credit hours during fall and spring semesters and the ten week summer sessions are considered to be full-time enrollment. The minimum full-time course load is nine credit hours during the fall or spring semester, and 16 hours maximum (12 hours for graduate assistants.)

**MASTER OF FORESTRY, TROPICAL FIELD STUDY OPTION**

The NAU School of Forestry, in partnership with the School for Field Studies (<http://www.fieldstudies.org>), offers a Master of Forestry degree with an international emphasis. This program is identical to the M.F. degree with the exception of special sections of FOR 697, "Introduction to the School for Field Studies", and FOR 506, "Summer Field Experience and Seminar", which are required courses conducted in either Kenya, Costa Rica, or Australia.

**M.F. COURSEWORK REQUIREMENTS – TROPICAL FIELD STUDY OPTION**

The courses required for each graduate student are determined by the Major Professor in consultation with the student.

**Required Courses (10 hours):**

FOR 505	Forestry Seminar Series	1
FOR 506	Special Studies – Summer Field Experience and Seminar (Summer experience at one of the School for Field Studies' sites in Kenya, Costa Rica, or Australia)	3
FOR 692	Pro Seminar	2
FOR 697	Introduction to the School for Field Studies	1

STA 570	Statistical Analysis I, or one, 3-credit hour graduate-level course with significant content in statistics	3
 <b>Core Courses (8-9 hours):</b>		
8-9 hours of core courses, with one course from each of the following subject areas:		8-9
<p>Ecosystem science: FOR 500, 515, 504, 520, 521, 544, 550, 551, 552, 553, 554, 560, 563, 579, 580, 582, 604, 611, 620, and 625 and MAT 542 and 543</p> <p>Forest management sciences and economics: FOR 500, 503, 524, 525, 530, 541, 542, 551, 565, 573, 590, 593, 603, and 633</p> <p>Forest social science: FOR 515, 573, and 605; POS 555, 658, and 659; GGR 576</p> <p>Courses offered as Special Studies in Forestry (FOR 506), Advanced Studies in Forestry (FOR 695), special topics courses, or other courses offered by the School of Forestry or other departments that are clearly related to the subject areas can be used as core courses with approval by the Major Professor.</p>		
 <b>Elective Courses (11-12 hours):</b>		
You must take 11-12 hours of electives, chosen in consultation with your Major Professor.		11-12
 <b>Professional Paper (3 hours):</b>		
FOR 689	Professional Paper	3
 <b>TOTAL REQUIRED:</b>		 33

## Summary Of Important Deadlines for the Master of Forestry

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By no later than ...	Required activity or status:
The end of the first semester of coursework	<ul style="list-style-type: none"><li>• The Student and Major Professor meet and determine: 1) the program of study of courses; and 2) the general topic the student will address in the professional paper. The Program of Study Form, which summarizes this information, must then be approved by the Graduate Coordinator and the Director of the School of Forestry. Copies of the approved form will be sent to the Major Professor, the student's file in the office of the School of Forestry, and the Graduate College.</li></ul>
Beginning of the final semester of coursework	<ul style="list-style-type: none"><li>• The Major Professor forms the grading committee for the professional paper, FOR 689, and the committee meets and approves the scope and an outline of the professional paper.</li><li>• Student obtains from the Graduate College a copy of the form "Application for Graduation (Masters or Doctorate)" and submits it to the Graduate College via the Major Professor with a copy to the Graduate Coordinator.</li></ul>
Six weeks prior to the end of the semester	<ul style="list-style-type: none"><li>• Student submits a draft of the professional paper to the Major Professor.</li></ul>
Four weeks prior to the end of the semester	<ul style="list-style-type: none"><li>• Major Professor sends the revised draft of the professional paper to grading committee.</li></ul>
Prior to the end of the semester	<ul style="list-style-type: none"><li>• Professional paper presentation.</li></ul>

## **CHAPTER 7 - DOCTOR OF PHILOSOPHY IN FORESTRY**

### **DOCTOR OF PHILOSOPHY DEGREE**

The Doctor of Philosophy (Ph.D.) degree is the terminal degree offered in the profession of forestry. Students with the Ph.D. degree normally pursue a career in research and/or education. Ph.D. students are expected to demonstrate skill in the generation of original ideas, considerable command of the literature, skill at designing, analyzing, and interpreting research, skill in scientific writing including the publication of research results in major professional refereed journals, and basic skills in teaching. Ph.D. students are expected to be self-motivated and largely direct their own research program with advice and counsel from the Major Professor and Dissertation Committee. The Ph.D. is a research degree that should be evaluated based on the originality and quality of the new knowledge generated.

The School of Forestry offers three Ph.D. emphasis areas: Ecosystem Science, Forest Management Sciences and Economics, and Forest Social Science.

### **DISSERTATION COMMITTEE ESTABLISHMENT**

The Graduate Coordinator will recommend to the Director of the School of Forestry a member of the School of Forestry tenure-track faculty or a Research Professor working full time in the School of Forestry to serve as Major Professor. The Major Professor in conjunction with the student will recommend at least three additional faculty members to serve as the Dissertation Committee. These persons must be NAU tenure-track faculty or NAU adjunct faculty with expertise that will substantially contribute to the dissertation project. In addition to the Major Professor, at least one other committee member must be a School of Forestry professor or School of Forestry adjunct. At least one member of the Committee shall be a faculty member from outside the School. Adjunct faculty may serve on the Dissertation Committee but not as the Major Professor, nor can Forestry Adjuncts serve as the outside member. Once a committee has been established, faculty who retire may continue to serve on the dissertation committee. The Dissertation Committee shall be established within the first semester that a student begins coursework. The Director of the School of Forestry recommends a Committee to the Graduate College who officially appoints the Dissertation Committee.

The Dissertation Committee's assessment of the student's progress towards meeting degree requirements will be summarized on the "PhD. Student Progress Evaluation Form" (Form 8, Appendix A) which shall be completed each year prior to February 15. Copies of the form shall be given to the student and placed in the student's file.

### **Ph.D. COURSEWORK – GENERAL RULES**

The Major Professor and the Dissertation Committee in consultation with the student shall determine the required courses.

The following rules should be considered:

1. All graduate students must maintain a GPA of 3.0 or better. Only six hours of grade C

are acceptable on the Ph.D. degree program. The student must receive a "B" or better in the fifteen credit hours selected in the emphasis area.

2. No graduate credit is allowed for courses numbered 100-399. Up to nine hours of 400-level courses may be used on a Ph.D. degree program.
3. The maximum graduate course load is 16 hours/semester. Graduate research assistants may take only 12 hours/semester. The minimum course load for full-time graduate students is nine hours/semester. Graduate assistants must be full-time graduate students (9-12 hours/semester) except as noted under the credit load section.
4. Graduate students working independently, such as writing their theses, are required to register for at least one credit of FOR 799, dissertation credit, each semester, including the semester of graduation. The number of credit hours of enrollment in FOR 799 should reflect the level of demand on faculty time. Students working with their Major Professor on a regular basis should enroll for three credit hours of FOR 799.
5. Contingent on approval of the Major Professor and Dissertation Committee, any number of the credits required for the Ph.D. degree may be transferred to NAU from another institution. However, only a maximum of 24 credit hours of coursework completed during a Masters degree can be used to meet degree requirements. Note: Students must take at least two of the five emphasis area courses at NAU (see below), and obtain approval from the Dissertation Committee for any courses taken elsewhere.
6. A graduate student may not repeat a course and have the second grade substituted for the first grade. A graduate student may repeat a course, but both grades are used in computing the grade point average.

## **Ph.D. COURSEWORK – REQUIREMENTS**

A total of 63 credits is required for the Ph.D. degree as outlined below:

1. A minimum of 15 dissertation credit hours is required.
2. A minimum of 48 credits hours of coursework (beyond the Bachelor's degree) that includes:
  - A minimum of 39 credit hours of 500-600 level courses;
  - A maximum of nine credit hours of 400-level courses, subject to Committee approval;
  - A maximum of 24 credit hours of coursework completed during a Masters degree, which may be credited to the 48 credit hour requirement.
  - No remedial coursework or dissertation hours (FOR 799) may satisfy the 48 credit hour requirement.
3. All doctoral students must take the following 14 hours:
  - FOR 505 Forestry Seminar Series (1 hour): Students must take FOR 505 at least at once during their degree program. The course may taken up to five times



during the degree program.

- FOR 690 Research Methods (3 hours), or another graduate-level course with three-credit-hours of content in defining, organizing, conducting, and evaluating scientific research, the philosophy of science, and the preparation and review of research proposals.
- FOR 692 Proseminar I (2 hours): Doctoral students (not M.S. or M.F. students) may earn credit for FOR 692 based on demonstration of proficiency in preparing and presenting scientific talks and posters. Proficiency will be shown within the first year of enrollment by presentation of a departmental seminar based on previous or current research, and a public presentation of a poster based on previous research in the Forestry Building. The seminar and poster will be evaluated by the student's Major Professor and FOR 692 instructors to assess whether the presentations meet requirements for passing FOR 692 . If the requirements are not met, the student must take FOR 692. Graduate-level courses transferred from other universities or taken at NAU with two credit hours of content in the preparation and presentation of scientific talks and posters may be used to meet the requirement for FOR 692, contingent on approval by the Dissertation Committee and Graduate Coordinator.
- FOR 693 Teaching Practicum (2 hours)
- STA 570 Statistical Methods I (3 hours) plus three hours from:
  - STA 571 Statistical Methods II (3 hrs)
  - STA 572 Multivariate Statistical Methods (3 hrs)
  - STA 574 Categorical Data Analysis (3 hrs)
  - STA 676 Experimental Design (3 hrs)
  - BIO 682 Quantitative Biology (3 hrs)
  - SOC 655 Quantitative Analysis (3 hrs)
  - Or another graduate-level (500-, 600-, 700-) course with significant content in statistics unless they have completed these courses or equivalent courses during their Master's degree.

4. You must also take 15 hours in your emphasis. Students must take at least two of these courses at NAU and obtain approval from the Dissertation Committee for any courses taken elsewhere.

5. You must also take 19 hours of electives.

The following section list graduate courses that constitute Ph.D. emphasis areas:

## **Ph.D. COURSEWORK – EMPHASIS AREAS**

### **A. ECOSYSTEM SCIENCE EMPHASIS**

FOR 500      Multi-resource Forest Management Principles ..... 3

FOR 504	Forest Wildlife Ecology & Management.....	3
FOR 515	Forestry in Developing Countries.....	3
FOR 520	Applied Forest Stand Dynamics.....	3
FOR 521	Advanced Topics in Forest Soils and Ecosystem Ecology.....	3
FOR 544	Landscape Ecology.....	3
FOR 550	Forest Tree Ecophysiology.....	3
FOR 551	Fire Ecology and Management: Lab.....	3:1
FOR 552	Forest Tree Diseases.....	3
FOR 553	Forest Entomology.....	3
FOR 554	Integrated Forest Health.....	3
FOR 560	Wetland Ecology and Management.....	3
FOR 563	Watershed Hydrology.....	3
FOR 579	Ecosystem Ecology.....	3
FOR 580	Ecological Restoration Principles.....	3
FOR 582	Ecological Restoration Applications.....	3
FOR 604	Wildlife Habitat Relationships.....	3
FOR 611	Forest Ecological Genetics.....	3
FOR 625	Forest Conservation Biology.....	3
MAT 542:543	Wildlife Population Modeling: Lab.....	3:2

**B. FOREST MANAGEMENT SCIENCES AND ECONOMICS EMPHASIS**

FOR 500	Multi-resource Forest Management Principles.....	3
FOR 503	Management Science Modeling for Multi-resource Forest Management.....	3
FOR 524	Aerial Photo Interpretation.....	3
FOR 525	Geographic Information Systems.....	4
FOR 530	Ecological Restoration Principles for Practitioners.....	3
FOR 541	Wood Products.....	3
FOR 542	Principles of Wood Science and Technology.....	3
FOR 551	Fire Ecology and Management: Lab.....	3:1
FOR 565	Watershed Restoration.....	3
FOR 573	Issues in Recreation Management.....	3
FOR 593	Natural Resources Economics.....	3
FOR 633	Ecological Economics.....	3

**C. FOREST SOCIAL SCIENCE EMPHASIS**

FOR 515	Forestry in Developing Countries.....	3
FOR 573	Issues in Recreation Management.....	3
FOR 590	Economic and Social Issues in Forest Recreation.....	3
FOR 605	Policy Process in Multi-resource Management.....	3
GGR 576	Geography of Tourism and Recreation.....	3
GGR 698	Seminar in Rural Geography (when offered as Planning for Small Communities and Rural Areas).....	3
POS 555	Science, Politics, and the Environment.....	3
POS 658	Topics in Environmental Politics.....	3
POS 659	Environmental Policy.....	3

Courses offered as Special Studies in Forestry (FOR 506), Advanced Studies in Forestry (FOR 695), or special topics courses offered by other departments can be used to fulfill emphasis or breadth requirements with approval by the dissertation committee. When Faculty offer a FOR 506 or FOR 695 course, they should work with the Graduate Coordinator to determine the appropriate emphasis area the course satisfies.

## **PROGRAM OF STUDY**

By the end of the first semester of coursework the Major Professor, in consultation with the Dissertation Committee and the student, must submit an approved Program of Study Form. The Program of Study contains a planned series of coursework and academic experience required for the student. Once a Program of Study has been filed with the Graduate College the student is expected to adhere to the Program. Any changes in the Program of Study must be approved by the Graduate Coordinator and approved by the Major Professor, Dissertation Committee, Director of the School of Forestry, and the Graduate College. Copies of the approved Program of Study Form will be sent to the student's file in the office of the School of Forestry, the Major Professor, all members of the Dissertation Committee, and the Graduate College.

## **COURSE LOADS**

Nine credit hours during each of the fall and spring semesters are considered to be the minimum course load for full-time enrollment for graduate students. Sixteen hours per semester is the maximum (12 hours for graduate assistants).

After completion of all required course work except dissertation, a resident doctoral student on half-time assistantship may petition to register for six credit hours a semester. Such a petition should be approved by the Graduate College and be endorsed by the Faculty Advisor and the Director of the School of Forestry.

## **SEMINAR REQUIREMENTS**

All Ph.D. students must attend the School of Forestry seminar series, unless course or research schedules interfere. In addition, all Ph.D. students are required to present two seminars: 1) presentation of final research results in a dissertation defense seminar; and 2) presentation of a technical paper at a local, state, regional, or national meeting (e.g., Society of American Foresters, Ecological Society of America, Wildlife Society, American Water Resources Association, or other professional organizations). The second seminar must be presented outside the School seminar series and is subject to approval by the student's Major Professor.

## **RESEARCH COMPETENCY REQUIREMENT**

NAU policy for Ph.D. programs includes a "research competency requirement" that must be satisfied before a student can be admitted to candidacy. In most departments, this is enforced as a requirement to demonstrate an ability to translate disciplinary literature from a foreign language into English. The School of Forestry has chosen to recognize FOR690 (Research Methods), STA570 (or equivalent), plus one graduate level course with significant content in statistics, as meeting this requirement.

## **RESEARCH REQUIREMENTS**

The Ph.D. degree requires a demonstration of considerable independence, research skill and experience in a discipline within forestry. Development of techniques, design of experiments, collection and analysis of data, reporting results in written and oral form, and preparation of research proposals are all skills that should be mastered in this degree program. The choice of a problem and research area is made in consultation with the Dissertation Committee. Dissertation research meets School of Forestry standards when it poses a set of objectives which: 1) are soundly based in the theoretical context of the subject, 2) proceed with a sound design that gives due attention to statistical adequacy, and 3) conclude with findings and inferences that once again are set forth in an appropriate theoretical context. The dissertation must demonstrate that the student has mastered his/her field of specialization, has carried out independent scholarly work, and has contributed significant new knowledge.

The student must prepare a research prospectus that outlines the general research area and identifies the research questions to be answered in their research. A brief overview of methods to be used is included. The research prospectus is generally 5-10 pages in length and must be approved by the Dissertation Committee. A copy is placed in the School file with a copy of the signed prospectus title page submitted to the office of Graduate College.

## **COMPREHENSIVE EXAMINATIONS**

The goal of the Comprehensive Examinations is to ensure that every Ph.D. student has a rigorously demonstrated competence in a breadth and depth of subjects within the larger field of forestry. In addition, students must demonstrate both written and oral communication skills in English at a level that will allow them to effectively communicate their ideas and knowledge to a wide range of audiences.

In general, Comprehensive Examinations should take place near the end of the student's coursework requirements, as directed by the student's Program of Study.

## **COMPREHENSIVE WRITTEN EXAMINATION**

Each student must successfully complete a written comprehensive examination. This examination is separate from, but related to, the student's coursework requirements. The examination will consist of a line of questioning prepared by each member of the student's Dissertation Committee, subject to the review and approval of the student's Major Professor. A line of questioning may include one or more questions. A student will have a maximum of eight hours to prepare a response to the line of questioning provided by each member of the Dissertation Committee. The exact format for preparing responses for a particular line of questioning is at the discretion of the faculty member preparing the line of questioning, with the approval of the Major Professor.

The Major Professor must read and evaluate all responses. Only the Committee member responsible for a particular line of questioning must read and evaluate the response to that line, although all committee members are encouraged to read all responses. Any member of the Dissertation Committee may request to review the questions and responses of the student.

The author of each line of questioning, along with the Major Professor, will determine the

adequacy of the response to each question, both for its subject matter content and its organization and overall quality as a written document. In the event of a disagreement between the committee members, the vote of the entire Committee will determine the adequacy of the response. The student responses to written questions and faculty evaluations of those responses shall become an official part of the student's file.

A student may either pass or fail the examination. A student passes the examination by preparing adequate responses to 2/3 of the lines of questioning. Upon passing the written examination the student becomes immediately eligible for the oral comprehensive examination.

Failure results when the Committee feels that the student has not prepared adequate responses to a majority of the lines of questioning. In this case, the student has the opportunity to retake the failed portions of the examination. New lines of questioning may be substituted for those in the original examination. Students are not required to retake those portions of the examination where responses were judged adequate. A student has only one opportunity to retake any or all of the written examination.

If the student fails the second written examination the student will be immediately dropped from the Ph.D. program. The student may reapply for admission after one year (two semesters). Readmission will be subject to the same requirements as specified for those students applying to the program at the time the application is made.

The Major Professor must inform the student of the outcome of the written examination within 14 days of the time the last examination responses were received from the student. Results of the written examination must be reported to the Graduate College on the "Report of Results of Written Comprehensive Examination" Form.

## **COMPREHENSIVE ORAL EXAMINATION**

The comprehensive oral examination can only be scheduled after the successful completion of the written examination. All Dissertation Committee members must attend the oral examination. The examination should focus on clarification or expansion on any of the responses to the written examination. It may also include other topics agreed upon by the committee, and may include a presentation by the student on the student's research plan and preliminary results.

Generally, the oral examination should continue for 2-3 hours. At the end of the discussions, the student will be asked to leave the Committee so that the members can discuss the student's performance. The Major Professor must inform the student as to the Committee's decision within 1 hour of the examination's completion.

Students either pass or fail the oral examination. A vote of 2/3 of the Dissertation Committee is required to pass the student. If passed, this qualifies the student for candidacy provided all other candidacy requirements have been successfully completed.

The Major Professor must provide to a student failing the oral examination the reasons for the adverse decision. A student failing the oral examination must retake the examination within 60 days. A student failing the oral examination a second time will be immediately dropped from the

Ph.D. program. The student may reapply for admission after one year (two semesters). Readmission will be subject to the same requirements as specified for those students applying to the program at the time the application is made. The results of the oral examination must be reported to the Graduate College on the "Report of Results of Oral Comprehensive Examination" Form.

## **ADMISSION TO CANDIDACY**

A student must apply for candidacy on the form "Application for Candidacy for the Doctoral Degree." The application is approved by the Major Professor, the Director of the School of Forestry, and the Graduate College Dean. Admission to candidacy should be obtained during the semester prior to graduation and must be granted at least 90 days before the Dissertation Defense Examination.

The requirements for admission to candidacy include:

1. A Program of Study approved by the Committee, the Graduate Coordinator and Director of the School of Forestry, and the Graduate College Dean.
2. Completion of all coursework on the Program of Study except the dissertation.
3. A dissertation prospectus approved by the Committee with a copy of the signed prospectus title page on file with Graduate College.
4. Demonstration of the research competency requirement.
5. Completion of the oral and written comprehensive examination requirements.
6. Completion of residency requirements.

## **DISSERTATION REQUIREMENTS**

Dissertation requirements are outlined in the Graduate Catalog (under Thesis and Dissertation Requirements) and in "The Format Manual" available at the Graduate College. The student is expected to conform with the style of presentation currently accepted by the Graduate College in preparing all drafts of a dissertation.

Two types of dissertation formats are acceptable. The traditional format includes general chapters for introduction, methods, results, and discussion. An alternative to the traditional style is a series of papers either submitted, or prepared for submission, to professional journals, with additional introductory and concluding chapters as required by the "The Format Manual." The student and Dissertation Committee must agree upon the choice of a specific format.

Dissertations in manuscript format should have all of the same basic components that occur in a normal dissertation. The main distinction of a manuscript format dissertation is that within the context of the dissertation there are one to several distinct manuscript chapters. The intent of the manuscript chapter format is to facilitate the preparation of manuscripts for submission to professional journals while completing the dissertation requirement. A manuscript dissertation

must have an introduction to the entire dissertation (including a literature review if appropriate), then is divided into chapters or manuscripts. Each chapter has a title, preface, abstract, introduction, materials and methods, results, discussion, and literature cited section. The preface is an explanatory statement to aid the reader to understand how the manuscript fits the remainder of the dissertation. Following the individual manuscript chapter(s) there is an overall summary of the entire dissertation project. Some redundancy may exist in the dissertation to maintain integrity of the individual manuscripts, but this should be kept to a minimum.

There may also be slight variations in style between manuscripts reflecting different journal requirements. The non-manuscript portion of the dissertation should have consistent style. Students are advised to visit with the Graduate College Format Editor well in advance of preparing their dissertation.

The following schedule for dissertation completion is required of all students:

1. The first draft of the dissertation must be reviewed by the Major Professor, revised by the student, and approved again by the Major Professor prior to distribution to the Dissertation Committee. This initial review should be made well in advance of the dissertation defense examination (minimum of eight weeks). At this time students should submit their dissertation to the Graduate College for format review.
2. The revised dissertation is to be submitted to the Dissertation Committee at least 4 weeks prior to dissertation defense examination. Committee members must provide feedback on the dissertation within two weeks if their changes are to be incorporated into the final draft of the dissertation. The Major Professor has responsibility to ensure recommendations of the Committee are incorporated into the revised dissertation.
3. The dissertation in final draft form, including all figures, tables, and references, must be provided to the Graduate College at least two weeks before the date of the dissertation defense exam. The copy for the Graduate College must be submitted with the completed and signed Dissertation Defense Scheduling Form, available from the Graduate College. This copy will be read by the representative from Graduate Council who is assigned to attend the defense.
4. Four final copies of the approved thesis, including format review, shall be submitted to the Graduate College at least one week prior to graduation. The student is responsible for all costs associated with dissertation production and binding. In addition, each student is encouraged to submit an electronic copy of the dissertation to the School of Forestry Information Technology staff for posting on the School of Forestry website. Consult the School of Forestry website for current instructions on file types and instructions for how to submit a signed title page. Students must register for one credit of dissertation research (FOR 799) for each semester after the defense until final copies of the dissertation are submitted to the Graduate College.

## **DISSERTATION DEFENSE**

A defense of the dissertation is required for all Ph.D. candidates. The dissertation defense shall be held within four years of the oral comprehensive exam. If this time is longer than four years, the oral exam must be repeated. The dissertation defense must occur no sooner than 90 days following admission to candidacy. The defense should be scheduled at least four weeks prior to expected date of graduation. The student must complete the "Dissertation Defense Scheduling Form" and sent it to the Graduate College to schedule the defense.

The defense will be scheduled immediately following the dissertation defense seminar. The dissertation defense seminar is open to the public. The length of the dissertation defense seminar will be limited to 50 minutes, including questions from the audience. The dissertation defense will convene within 20 minutes following the seminar. The defense is restricted to faculty and, at the minimum, must include the entire Dissertation Committee and an observer from outside the School of Forestry, appointed by the Graduate College. The observer reports to the Graduate College on the conduct of the exam and may ask questions, but does not vote. Only Dissertation Committee members can vote on the student's performance in the defense. The maximum time for the dissertation defense (following the seminar) is two hours.

At least four weeks notice of the defense must be provided to all Committee members. All Committee members must also be provided a copy of the dissertation for review at least four weeks prior to the defense. The dissertation must be in final form prior to the defense. It is the Major Professor's responsibility to determine when the dissertation is ready to be defended. However, the Committee can delay the defense if the dissertation is judged to be inadequate.

The Major Professor has the responsibility to ensure that the defense is conducted in a fair and appropriate manner. Questions will be asked by each member of the Dissertation Committee, and by other faculty in attendance upon approval of the Major Professor. Questions will be limited to the dissertation or knowledge related to the dissertation. Defense questions should be designed to allow the student to demonstrate ability in interpreting the results of the dissertation research and in discussing the results in relation to current scientific understanding.

Following the defense, the student will be asked to leave the room, while the Major Professor leads a discussion of the examination. A passing vote by a 2/3 majority of the Committee members is required to pass the defense. If a student fails their first defense, they will be given another opportunity to defend. The second defense should be scheduled within six months of the first defense. Students will be notified immediately as to the outcome of the defense. The Major Professor must submit a "Report on Final Oral Examination for Ph.D. Degree" to the student's file in the School of Forestry Office and the Graduate College following the defense.

## **STUDENT TEACHING REQUIREMENT**

All Ph.D. students benefit by gaining teaching experience. Teaching skills are important for Ph.D. students and provide valuable experience needed in the highly competitive job market. For this reason, the School of Forestry requires all Ph.D. students, regardless of the type of financial support, to have some teaching experience. However, the teaching expectation in the School of Forestry may vary depending on financial support, the year of residence, level of competency in teaching, and approvals by the Director of the School of Forestry, Major



Professor, and Dissertation Committee.

All Ph.D. students are required to participate in the teaching of an established course in order to gain teaching experience. Such participation will include preparing a minimum of four lectures, delivering them in the presence of a faculty instructor, and developing test questions based on the material presented in class. The Dissertation Committee must approve the proposed teaching experience. All teaching by Ph.D. students must be evaluated by the student's Major Professor or course instructor using the "Ph.D. Student Teaching Evaluation" Form.

Students who successfully complete FOR 693 (Teaching Practicum) may use this course to fulfill their student teaching requirement, subject to approval by their Major Professor and Dissertation committee.

### **RESIDENCY REQUIREMENTS**

The student must spend two consecutive semesters of full-time study in residence at NAU after formal admission to the Ph.D. program. Residency is defined as carrying a minimum load of nine credit hours of Committee-approved courses during a semester or five approved hours during a summer session.

## **CHAPTER 8 - APPLICATION FOR GRADUATION**

All graduate students in the M.F., M.S., and Ph.D. programs must make a formal application for graduation. A student should apply for graduation early in the semester in which graduation is expected. Forms and information on deadlines are available in the Registrar's Office and the Graduate College. The application process includes payment of a graduation fee.

In signing the form, the Major Professor asserts that the graduate student is making sufficient progress to be able to defend the thesis, professional paper, or dissertation prior to the end of the semester.

## **CHAPTER 9 - FINANCIAL ASSISTANCE**

There are four broad categories of financial support available to students in the School of Forestry. The first and most common is a research assistantship awarded by the School of Forestry on the basis of academic merit and ability to conduct research in collaboration with a faculty member. The second, a teaching assistantship, is occasionally available depending on funding and teaching needs of the School. Teaching assistantships are awarded by the Director of the School of Forestry. Both Research and Teaching Assistantships include waiver of out-of-state tuition, and a waiver of a portion of in-state tuition, if the number of work hours exceeds 10 per week. The third category of support is a fellowship provided by governmental agencies or other sources. The fourth category is based on demonstrated financial need. Financial assistance based on financial need is administered by the Office of Student Financial Aid, P.O. Box 4108, Flagstaff, AZ 86011-4108 (520-523-4951), with programs described in a brochure titled Financial Aid, available from that office. For all kinds of support, offers of assistance are made only after the student is admitted into the graduate program.

Research assistantships for students in the School of Forestry are available from two sources: 1) a variable number of assistantships are supported by funds provided to the School from the federal McIntire-Stennis Program, and 2) a variable number of assistantships may be available through externally supported research grants. In both cases, assistantships are awarded to individual faculty members who are responsible for selecting students. Criteria for selecting a student for an assistantship may vary among faculty members, but must include a high likelihood of excellent academic performance and ability to conduct independent research of high quality. Inquiries about the availability of assistantships should be made to the Graduate Coordinator and to faculty doing research in the area in which the student is interested.

All half-time assistantships include a commitment of 20 work hours per week, and a course load of 9-12 credit hours per semester (note exceptions under "Credit Load" section). All graduate assistants are required to pay the portions of in-state tuition and other registration fees that are not waived as part of the assistantship. Students may receive scholarships to cover tuition in addition to the assistantship stipend. In addition, assistantships may occasionally be awarded at less than the half-time rate depending on the needs of a research project and the availability of funds (e.g., Peace Corps Masters International assistantships, see Chapter 6 – Master of Forestry). Graduate students who receive half-time assistantships are not permitted to have outside employment.

State-supported M.S. Research Assistantships are typically limited to two years. There is no specific limit on externally funded M.S. Research Assistantships. State-supported Ph.D. assistantships are typically limited to four years. However, only students who make good progress in the first year of their program will be considered for continued support. There is no limit on the total number of years of support for Ph.D. assistantships funded by external grants. The duration of support for assistantships funded by external grants will depend on the student's performance and the availability of funds. In addition, assistantship support may be withdrawn at any other time that a student's overall performance is judged inadequate by the Major Professor.

## **CHAPTER 10 - RESEARCH ASSISTANT EXPECTATIONS**

Graduate research assistants are expected to demonstrate qualities of professionalism and academic leadership beyond those normally expected of other graduate students. A graduate assistant is expected to remain in good academic standing and make satisfactory progress toward a graduate degree.

This includes:

1. A minimum cumulative GPA of 3.00.
2. No more than six hours of grade C.
3. A grade of B or better in the fifteen credit hours of emphasis area courses.
4. Completion of at least nine hours of credit each academic semester.

In addition, all Graduate Assistants must attend in their first fall of employment the University Graduate Assistant Orientation. This orientation is designed to familiarize Graduate Assistants with the goals of the University and the Assistant's role in achieving these goals.

In addition to the above university-wide expectations for graduate assistants, the School of Forestry has established the following conditions of support for Graduate Research Assistants:

1. The Major Professor has control over the Graduate Research Assistant's work schedule. Requests for assistance from a graduate student should always be routed through the Major Professor.
2. Graduate Research Assistants are expected to work an average of 20 hours/week (half-time appointment) with the primary objective of conducting their thesis or dissertation research. The work schedule may vary but will often include many more hours during the summer.
3. Students who receive research assistantships provided to faculty members through external grants are typically employed to perform research or other work specified in the grant. This may involve assisting the faculty member with data collection, data analysis, and writing reports so that the faculty member can meet their obligations to the granting agency. In many cases, the work done by the student may be an important component of their thesis or dissertation research. However, the student's use of such data for their research must be approved by the faculty member responsible for the research. Further, such use of data does not relieve the student of the obligation to provide data, reports, or other products to the faculty member responsible for the research. Faculty members and their students supported by externally funded assistantships should agree to the student's responsibility to the project and the use of project data before initiation of any work by the student.
4. Graduate Research Assistants working at the half-time level (20 hours per week) are not permitted to have employment outside the School.

5. Graduate Research Assistants are expected to be self-motivated and work with minimal supervision from the Major Professor.
6. At the discretion of the Major Professor, Graduate Research Assistants may be required to help on other graduate student and faculty projects.
7. Graduate Research Assistants may occasionally be asked to assist on field trips or in laboratory exercises and present appropriate lectures in their field of study as requested by the Major Professor.
8. Graduate Research Assistants may occasionally be asked to assist in recruitment efforts such as Career Days with approval of the Major Professor.
9. Graduate Research Assistants are expected to become the local expert in their field. They should know as much or more about their field than the Major Professor or any other faculty.
10. Graduate Research Assistants are expected to be members of and participate in professional organizations.
11. Graduate Research Assistants are expected to publish the results of their thesis or dissertation research. A draft manuscript may be required before completion of the degree, depending on the Major Professor's requirements. Within the conventional ethical standards for determination of senior authorship, the Major Professor shall have the right to assume senior authorship and submit for publication any manuscript not completed by the student within one year of graduation.
12. After completion of all required course work except dissertation, a resident doctoral graduate student on half-time assistantship may petition to register for six credit hours a semester. Such a petition should be approved by the Graduate College and be endorsed by the Faculty Advisor and the Director of the School of Forestry.

The student's Major Professor will determine whether the student has satisfied the above conditions.

## **CHAPTER 11 - STUDENT'S ROLE IN THE SCHOOL**

A graduate student occupies a special place in the School and the University. Graduate students are in many ways closer to the faculty than to the undergraduate student. Thus, high expectations exist for responsibility, honesty, and professional behavior at all times. These qualities are developed and observed through interactions with faculty, other graduate students, and visiting scientists, dissertation research, participation in seminars, attendance at departmental seminars, and attendance and presentation of papers at scientific meetings. Evaluation concerning a student's professional competence and ability to interact with people is based on the student's participation in these diverse activities.

Students carry significant responsibilities in School teaching and research. Many are employees of the School, University, and State, and are representatives of the School on and off of campus. Therefore, graduate students are expected to exhibit high professional standards, to be knowledgeable about School affairs, faculty and student activities, and in general conduct themselves in a professional manner.

Graduate students are encouraged to join and participate in the activities of appropriate professional societies. The benefits of membership, including journals and newsletters, are generally available to students at reduced rates.

There are many informal opportunities to learn from fellow students with experience from other parts of the United States and the World. One can learn a great deal by helping others, sharing work efforts, and studying together. Cooperation and social interaction with fellow students are strongly encouraged.

Nearly all of our activities entail the use of facilities, equipment, and operational budgets provided through State and Federal Governmental funds. Our use of State vehicles, which are clearly marked "For Official Use Only", is an especially sensitive and obvious area of concern. Anyone using State or University property for reasons other than those intended is liable for legal prosecution and/or dismissal. Telephones, copy machines, postage, vehicles, etc. may not be used for personal reasons. If there is doubt about the difference between official and private actions, check with your Major Professor.

Common courtesy requires that students ask permission before using facilities or equipment not already assigned to their project. Although some equipment is kept in common storage areas, it may well be considered the "property" of a specific research project, laboratory, or teaching area, and others may be depending on finding the equipment there when they need it. Requests for equipment should be directed to the School of Forestry equipment manager. If that individual is not available, talk to a faculty member whose interests might involve those materials. All equipment should be signed out and returned in clean working order. Report any problems to the equipment manager so that they can be corrected.

Office space will be provided to all graduate students if possible. If space is limited, first priority is given to graduate students who are employed by the School of Forestry (e.g., research or teaching assistantships, other sources of financial support that clearly benefit the School) based

on seniority. When all funded students are allocated space then non-funded students may be assigned space on a seniority system. Full-time research associates, technicians, or post-doctoral researchers may be placed in the graduate student areas if space is not available elsewhere.

It is the responsibility of the Major Professor to notify the Director of the School of Forestry of the impending arrival of new students or the departure or return of old ones. Time of such notification is used to establish precedence within each priority level. Once assigned a desk, the student is expected to utilize it to the fullest. Space is a scarce resource. Infrequently used desks will be assigned to another student.

Appropriate keys are issued to students by the Director of the School of Forestry upon written request by the Major Professor. Security demands that you safeguard keys issued to you and not lend them to others. It is illegal to duplicate university keys. Also, students should be very conscious about locking doors when they enter the building or laboratories outside of general business hours.

## **CHAPTER 12 - ACADEMIC CONDUCT OF GRADUATE STUDENTS**

Graduate research should entail the generation of original, truthful information. Academic misconduct includes any of the following deceptive practices:

- Falsification of data: the intentional and unauthorized altering or inventing of any information or citation, including the purposeful omission of conflicting data with the intent to falsify.
- Plagiarism: knowingly representing the works or ideas of another as one's own.
- Misappropriation of others ideas or data.
- Misrepresentation of academic credentials.

Allegations of academic misconduct should be brought immediately to the attention of the Major Professor and the Director of the School of Forestry. The Major Professor and Director of the School of Forestry shall immediately conduct a preliminary investigation to ascertain the legitimacy of the alleged misconduct. Allegations of misconduct that are substantiated at this level shall be reported to the Graduate College for appropriate University level action.



## **CHAPTER 13- GRIEVANCE AND APPEAL PROCEDURES**

Students with significant complaints on any aspect of their education in the School of Forestry first should attempt to resolve the issue informally. Examples of informal resolution are addressing such complaints first directly to the person causing the grievance, second to the student's Major Professor, and third to the Graduate Coordinator, and last to the Director of the School in order to reach a settlement. When none of the above attempts are successful, the student should follow the formal grievance procedures established by the University and described in the University Student Handbook (<http://www4.nau.edu/stulife/handbookgrievance.htm>).

Grade appeals will be treated as described in the University Student Handbook (<http://www4.nau.edu/stulife/handbookgrievance.htm>).

## **APPENDIX A: SCHOOL OF FORESTRY GRADUATE STUDENT FORMS**

(Available at <http://www.for.nau.edu/cms/content/view/486/665>)

Form1	Application For Admission: Apply online at <a href="http://www.applyweb.com/apply/northazg">http://www.applyweb.com/apply/northazg</a>
Form2	Recommendation For Graduate Study
Form3	Program of Study for Master of Science in Forestry (M.S.) Program
Form3a	Program of Study for Master of Forestry (M.F.) Program
Form4	Report On Final Examination For Masters Degree
Form5	Program of Study for Ph.D. Program
Form6	Ph.D. Student Progress Evaluation Report
Form7	Ph.D. Student Teaching Evaluation
Form8	Report On Results Of Written Comprehensive Examination
Form9	Report On Results Of Oral Comprehensive Examination
Form10	Application For Candidacy For The Doctoral Degree
Form11	Dissertation Defense Scheduling Form
Form12	Report On Results Of Oral Dissertation Defense

Graduate College forms are available at <http://www.nau.edu/gradcol/>; click on “current students.”

## Recommendation For Graduate Study

**School of Forestry  
Northern Arizona University  
NAU Box 15018 Flagstaff, Arizona, U.S.A. 86011-5018**

**Last Name**

**First Name**

**Middle Name**

*Please keep your current address on file with NAU: Log in to LOUIE at <http://www.nau.edu/louie>*

Please read the following carefully before issuing or completing this form:

**TO THE CANDIDATE:** Please check one of the following options before you send or give this form to the person recommending you. This form will not be accepted if you fail to designate the option of your choice or fail to sign below.

PLEASE  
CHECK  
ONLY  
ONE  
OPTION

- NON-CONFIDENTIAL RECOMMENDATION.** The above-named person elects to keep this recommendation non- confidential recommendation may be shown to the candidate at his or her request.
- CONFIDENTIAL RECOMMENDATION.** I elect to keep this recommendation confidential and I waive all my rights of access to this recommendation, whether visual, oral or written, as provided in the Family Educational Rights and Privacy Act of 1974 and its amendments. I understand that this recommendation will not be available for my inspection now or in the future.

Date: \_\_\_\_\_

Candidate's Signature and Date (Must be signed to be valid)

**TO THE RECOMMENDER:**

The person whose name appears on this form wishes to ask you for a recommendation regarding his or her qualifications for graduate study in forestry. Your honest and careful statement and evaluation will be appreciated. Please rate this applicant in comparison with other students of the same age and position.

Please check appropriate box for each category	No Basis for Judgment	Lower Half	Upper Half but not Upper 25%	Upper 25% but not Upper 2%	Upper 2%
Native Intellectual Ability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Breadth of General Knowledge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Initiative and Resourcefulness	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interest in Their Field	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Oral Expression Ability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Written Expression Ability	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ability to Work with Others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emotional Maturity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Promise as a Teacher	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Promise as a Researcher	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Independence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

In what capacity do you know this person \_\_\_\_\_ and for how long? \_\_\_\_\_  
Please attach a letter, or use the space below for additional comments.

(Type or print your name)  
Date \_\_\_\_\_

(Title or position)  
Your Employer \_\_\_\_\_

(Signature)

Mail Completed form to: Coordinator of Graduate Programs  
School of Forestry  
P.O. Box 15018  
Northern Arizona University  
Flagstaff, Arizona 86011

Form modified: May 3, 2005

**Program of Study for Master of Science in Forestry (M.S.) Program**

**School of Forestry  
Northern Arizona University  
NAU Box 15018 Flagstaff, Arizona, U.S.A. 86011-5018**

_____	_____	_____
<b>Last Name</b>	<b>First Name</b>	<b>Middle Name</b>
_____	_____	_____
<b>NAU ID</b>	<b>Daytime Phone</b>	<b>Email (Optional)</b>

*Please keep your current address on file with NAU: Log in to LOUIE at <http://www.nau.edu/louie>*

Date Admitted: _____	<b>GRE</b>	<b>Score</b>	<b>% Below</b>
Expected Graduation Date: _____	Verbal	_____	_____
Undergraduate GPA: _____	Quantitative	_____	_____
	Analytical	_____	_____

**Remedial Courses**

Course Number / Name	Semester	Credit Hours	Grade

**Program of Study Courses**

Course Number / Name	Semester	Credit Hours	Grade
FOR505 Forestry Seminar		1	
FOR690 Research Methods		3	
FOR692 Proseminar		2	
FOR699 Thesis Credits	Several	8	
<b>Total Hours Required in the Program</b>			

**Tentative Title of Thesis:**

\_\_\_\_\_

\_\_\_\_\_

Committee membership is being proposed or changed on this form.

This form amends courses on a previously approved on Program of Study, but does not propose any change in committee membership.

**Approval Signatures**

<b>Program Committee</b>	<b>Name</b>	<b>Signature</b>	<b>Date</b>
<b>Major Professor:</b>	_____	_____	_____
<b>Committee Members:</b>	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
<b>Graduate Coordinator:</b>	_____	_____	_____
<b>Exec Director - School of Forestry:</b>	_____	_____	_____

The signature of the Graduate Coordinator indicates that the courses in the Program of Study satisfy conditions specified in the School of Forestry Graduate Handbook.

The signature of the Director of the School of Forestry indicates that the committee membership satisfies conditions specified in the School of Forestry Graduate Handbook.

Distribution: Major Professor  
Thesis Committee Members  
School File  
Graduate College  
Student

Form modified: March 1, 2008

## Program of Study for Master of Forestry (M.F.) Program

School of Forestry  
Northern Arizona University  
NAU Box 15018 Flagstaff, Arizona, U.S.A. 86011-5018

Last Name	First Name	Middle Name
NAU ID	Daytime Phone	Email (Optional)

*Please keep your current address on file with NAU: Log in to LOUIE at <http://www.nau.edu/louie>*

Option (Check One)		Date Admitted: _____	GRE	Score	% Below
Non-Thesis	<input type="checkbox"/>	Expected Graduation Date: _____	Verbal	_____	_____
Tropical Field Study	<input type="checkbox"/>	Undergraduate GPA: _____	Quantitative	_____	_____
Peace Corps Intn'l	<input type="checkbox"/>		Analytical	_____	_____

**Remedial Courses**

Course Number / Name	Semester	Credit Hours	Grade

**Program of Study Courses**

Course Number / Name	Semester	Credit Hours	Grade
FOR505 Forestry Seminar		1	
FOR692 Proseminar		2	
FOR689 Professional Paper		3	
STA570 Statistical Methods I (or substitute course with significant content in statistics)			
If Substitute Course – Specify Here:		3	
<b>Core Courses (8-9 hours) – Specify Each Course Number Below</b>			
Ecosystem Science (1 course):			
Management/Economics (1 course):			
Social Science (1 course):			
<b>Elective Courses (15-16 hours) – Specify Each Course Number Below</b>			
<b>Total Hours Required in the Program</b>			

**Approval Signatures**

<b>Program Committee</b>	<b>Name</b>	<b>Signature</b>	<b>Date</b>
<b>Major Professor:</b>	_____	_____	_____
<b>Graduate Coordinator:</b>	_____	_____	_____
<b>Exec Director - School of Forestry:</b>	_____	_____	_____

The signature of the Graduate Coordinator indicates that the courses in the Program of Study satisfy conditions specified in the School of Forestry Graduate Handbook.

Distribution: Major Professor  
School File  
Graduate College  
Student

Form modified: March 1, 2008

# Report On Final Examination For Masters Degree

School of Forestry  
Northern Arizona University  
NAU Box 15018 Flagstaff, Arizona, U.S.A. 86011-5018

\_\_\_\_\_

Last NameFirst NameMiddle Name

Title of Thesis or Professional Paper:

\_\_\_\_\_

\_\_\_\_\_

Program:             M.S. (Thesis)             M.F. (Non-Thesis)

For the Master of Forestry degree, the professional paper will serve as the written comprehensive exam required under the "Comprehensive Examination Plan" for Master's degrees at NAU.

Vote of Committee:    Passed    \_\_\_\_\_    votes

Failed    \_\_\_\_\_    votes

2/3 majority of the committee members required to pass.

**Committee Member's Signatures**

Program Committee	Name	Signature	Date
<b>Major Professor:</b>	_____	_____	_____
<b>Committee Members:</b>	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
<b>Graduate Coordinator:</b>	_____	_____	_____
<b>Exec Director - School of Forestry:</b>	_____	_____	_____

**Web Publish Thesis/Professional Paper:** Graduates may elect to have their M.S. Thesis or M.F. professional paper published to the School of Forestry Library Web (<https://library.for.nau.edu:8443>).

- YES – Publish my Thesis/Paper to the web.
- NO – Do Not publish my Thesis/Paper to the web.

\_\_\_\_\_

Student's SignatureDate

Distribution: Major Professor  
Thesis Committee Members  
School File  
Graduate College  
Student

Form modified: December 14, 2005



## Program of Study for Ph.D. Program

School of Forestry  
Northern Arizona University  
NAU Box 15018 Flagstaff, Arizona, U.S.A. 86011-5018

Last Name	First Name	Middle Name
NAU ID	Daytime Phone	Email (Optional)

*Please keep your current address on file with NAU: Log in to LOUIE at <http://www.nau.edu/louie>*

	<b>GRE</b>	<b>Score</b>	<b>% Below</b>
Date Admitted: _____	Verbal	_____	_____
Expected Graduation Date: _____	Quantitative	_____	_____
Undergraduate GPA: _____	Analytical	_____	_____

Emphasis Area: \_\_\_\_\_

**Remedial Courses**

Course Number / Name	Semester	Credit Hours	Grade

**Transfer Credits**

This section summarizes transfer courses used to meet degree requirements below - do not include transfer courses used to fulfill remedial requirements.

Course Title	Institution	Grade Received	Semester Credits	Requirement Substituted For

Tentative Title of Dissertation: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Program of Study Courses**

Course Number / Name	Semester	Credit Hours	Grade
FOR505 Forestry Seminar		1	
FOR690 Research Methods		3	
FOR692 Proseminar		2	
FOR693 Teaching Practicum		2	
FOR799 Dissertation Credits	Several	15	
<b>Statistics Requirement (6 hours) – Specify Each Course Number Below</b>			
<b>Emphasis Area Requirement (15 hours) – Specify Each Course Number Below</b>			
<b>Electives (19 hours) – Specify Each Course Number Below</b>			
<b>Total Hours Required in the Program</b>			

- Committee membership is being proposed or changed on this form.
- This form amends courses on a previously approved on Program of Study, but does not propose any change in committee membership.

**Approval Signatures**

Program Committee	Name	Signature	Date
<b>Major Professor:</b>	_____	_____	_____
<b>Committee Members:</b>	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
<b>Graduate Coordinator:</b>	_____	_____	_____
<b>Exec Director - School of Forestry:</b>	_____	_____	_____

The signature of the Graduate Coordinator indicates that the courses in the Program of Study satisfy conditions specified in the School of Forestry Graduate Handbook. The signature of the Director of the School of Forestry indicates that the committee membership satisfies conditions specified in the School of Forestry Graduate Handbook.

Distribution: Major Professor  
 Thesis Committee Members  
 School File  
 Graduate College  
 Student

# Ph.D. Student Progress Evaluation Report

(To be Submitted On An Annual Basis)

School of Forestry  
Northern Arizona University  
NAU Box 15018 Flagstaff, Arizona, U.S.A. 86011-5018

\_\_\_\_\_  
Last Name

\_\_\_\_\_  
First Name

\_\_\_\_\_  
Middle Name

\_\_\_\_\_  
NAU ID

## I. COURSEWORK

Yes

No

A. Have courses in Program of Study been completed as scheduled?  
If not, explain reasons for non-completion, and detail the steps anticipated to complete the courses.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Yes

No

B. Is performance in coursework satisfactory?  
If not, explain steps anticipated to correct unsatisfactory performance.

\_\_\_\_\_  
\_\_\_\_\_

C. If completion or satisfactory performance issues were noted at the last evaluation, discuss the progress on the plan(s) to address these issues.

\_\_\_\_\_  
\_\_\_\_\_

D. Comments

\_\_\_\_\_  
\_\_\_\_\_

Satisfactory

Unsatisfactory

E. Overall Coursework Progress Evaluation

## II. RESEARCH AND DISSERTATION PREPARATION

Yes

No

A. Has performance and progress on the dissertation research been satisfactory?  
If not, detail the steps anticipated to achieve satisfactory progress.

\_\_\_\_\_  
\_\_\_\_\_

B. If completion or satisfactory performance issues were noted at the last evaluation, discuss the progress on the plan(s) to address these issues.

\_\_\_\_\_  
\_\_\_\_\_

II. RESEARCH AND DISSERTATION PREPARATION (Cont'd)

C. Comments

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Satisfactory  Unsatisfactory

D. Overall Research and Dissertation Preparation Evaluation

III. OVERALL EVALUATION

Satisfactory  Unsatisfactory

A. How would you rate the candidate overall?

Signatures

Program Committee	Name	Signature	Date
<u>Major Professor:</u>	_____	_____	_____
<u>Committee Members:</u>	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
<u>Graduate Coordinator:</u>	_____	_____	_____
<u>Exec Director - School of Forestry:</u>	_____	_____	_____

Distribution: Major Professor  
School File  
Student

Form modified: May 3, 2005

# Ph.D. Student Teaching Evaluation

School of Forestry  
Northern Arizona University  
NAU Box 15018 Flagstaff, Arizona, U.S.A. 86011-5018

_____	_____	_____
Last Name	First Name	Middle Name
_____	_____	
NAU ID	Evaluation Date	

Teaching is a crucial part of doctoral student education. The evaluation of teaching should be based on at least two classroom observations, preferably at widely separated intervals. Constructive criticisms should be given to the student during a personal meeting within a few days of each observation. In addition, each student should be evaluated by the classroom students using the Instructor Teaching Evaluations used by Forestry Faculty.

## I. AREA EVALUATIONS

### A. Knowledge of Subject Matter (organization, appropriate level, response to questions)

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### B. Demeanor, Appearance, Control of Class, Relationship with Students.

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### C. Examinations and Quizzes (appropriate level, coverage of material, ease of understanding)

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### B. Participation in Meetings, Preparation Sessions, and Completion of Out-of-Class Assignments.

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## II. OVERALL TEACHING EVALUATION

Satisfactory     Unsatisfactory

**Comments**

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**Signatures**

<b>Program Committee</b>	<b>Name</b>	<b>Signature</b>	<b>Date</b>
<b>Major Professor:</b>	_____	_____	_____
<b>Evaluators:</b>	_____	_____	_____
	_____	_____	_____
<b>Student:</b>	_____	_____	_____

Distribution: Major Professor  
School File  
Student

Form modified: May 3, 2005

# Report On Results of Written Comprehensive Examination

**School of Forestry**  
**Northern Arizona University**  
**NAU Box 15018 Flagstaff, Arizona, U.S.A. 86011-5018**

Last Name	First Name	Middle Name
NAU ID	Examination Date	

This evaluation is completed following the completion of coursework requirements as detailed in the School of Forestry Graduate Student Policies and Procedures Handbook.

**Signatures**

Committee Member Name	Signature	PASS	FAIL <sup>1</sup>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

<sup>1</sup> Committee members failing a student must attach a written explanation of reasons for failing grade.

**Vote of Committee:**      **Passed**    \_\_\_\_\_    **votes**  
                                   **Failed**    \_\_\_\_\_    **votes**  
 2/3 majority of the committee members required to pass.

**Additional Requirements (if any) and Justifications**

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Executive Director – School of Forestry	Date
---	------

Distribution:    Major Professor  
                       Thesis Committee Members  
                       School File  
                       Graduate College  
                       Student

Form modified: May 3, 2005

## Report On Results of Oral Comprehensive Examination

**School of Forestry**  
**Northern Arizona University**  
**NAU Box 15018 Flagstaff, Arizona, U.S.A. 86011-5018**

Last Name	First Name	Middle Name
NAU ID	Examination Date	

This evaluation is completed following the completion of coursework requirements as detailed in the School of Forestry Graduate Student Policies and Procedures Handbook.

**Signatures**

Committee Member Name	Signature	PASS	FAIL <sup>1</sup>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>

<sup>1</sup> Committee members failing a student must attach a written explanation of reasons for failing grade.

**Vote of Committee:**      **Passed**    \_\_\_\_\_    **votes**  
                                   **Failed**    \_\_\_\_\_    **votes**  
 2/3 majority of the committee members required to pass.

**Additional Requirements (if any) and Justifications**

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Executive Director – School of Forestry	Date
---	------

Distribution:    Major Professor  
                       Thesis Committee Members  
                       School File  
                       Graduate College  
                       Student

Form modified: March 1, 2008



Application for Candidacy for the Doctoral Degree

School of Forestry
Northern Arizona University
NAU Box 15018 Flagstaff, Arizona, U.S.A. 86011-5018

\*\*\*\*\*
TO BE COMPLETED BY STUDENT:

Last Name First Name Middle Name

NAU ID Daytime Phone Email (Optional)

Degree Program:

- Ed.D. - Educational Leadership
Ed.D. - Educational Psychology
Ed.D. - Curriculum & Instruction
Ph.D. - Applied Linguistics
Ph.D. - Biology
Ph.D. - Forest Science
Ph.D. History
Ph.D. Political Science
Other

Student Signature Date

\*\*\*\*\*
TO BE COMPLETED BY THE DEPARTMENT:

Written Comprehensive Examination (date passed):
Oral Comprehensive Examination (date passed):
Language proficiency examination or research competency satisfied (date):
Residency requirement satisfied: Yes No When:

- The student above has met departmental requirements for candidacy.
The dissertation topic has been approved and a signed prospectus title page is attached.
A program of study is attached or is on file in the Graduate College.

Major Advisor Signature Date

Department Chair or Designee Signature Date

The members of the dissertation committee are:
\_\_\_\_\_
\_\_\_\_\_
\_\_\_\_\_

\*\*\*\*\*
TO BE COMPLETED BY THE GRADUATE COLLEGE:

- Graduate program submitted and approved.
Dissertation prospectus submitted and approved.
Residency verified.
Exams verified.
Candidacy: Approved Deferred Denied

Graduate College Signature Date

# Dissertation Defense Scheduling Form

School of Forestry  
Northern Arizona University  
NAU Box 15018 Flagstaff, Arizona, U.S.A. 86011-5018

\_\_\_\_\_  
Last Name

\_\_\_\_\_  
First Name

\_\_\_\_\_  
Middle Name

\_\_\_\_\_  
Major

This signed form *and* a copy of the dissertation *must* be in the Graduate College office (Ashurst Room #A107) at least two full weeks (ten working days) before the dissertation defense. (Please note that this copy of the dissertation will be reviewed by the representative from the University Graduate Committee who will attend the defense. This copy will *not* be used for a format review. The format review is a separate process; students must contact the Graduate College's Format Editor directly for such a review preferably a few weeks before the defense.)

Title of Dissertation:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The committee members listed below have read the final draft of the dissertation and agree that it is ready for defense. (Only the dissertation committee chair's signature is required – it verifies that all committee members agree that the dissertation is ready for defense.)

\_\_\_\_\_  
Dissertation Committee Chair's Signature

\_\_\_\_\_  
Date

To verify committee members, list names:

Committee Chair

Committee Member

Committee Member

Committee Member

Committee Member

Committee Member

The Oral Defense is Scheduled for:

\_\_\_\_\_  
Date and Time

\_\_\_\_\_  
Place

\_\_\_\_\_  
Department Chair or Designee's Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Graduate College Signature

\_\_\_\_\_  
Date

Form modified: May 3, 2005

**Report On Results of Oral Dissertation Defense**  
**School of Forestry**  
**Northern Arizona University**  
**NAU Box 15018 Flagstaff, Arizona, U.S.A. 86011-5018**

Last Name	First Name	Middle Name
Degree Title and Major		Examination Date

This evaluation is completed following the completion of coursework requirements as detailed in the School of Forestry Graduate Student Policies and Procedures Handbook.

**Vote of Committee:**      **Passed** \_\_\_\_\_ **votes**  
                                   **Failed**        \_\_\_\_\_ **votes**  
 2/3 majority of the committee members required to pass.

Specify what changes (if any) must be made to the dissertation and who will verify that they have been made.

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**Signatures**

Committee Member Name	Signature
<b>Major Professor:</b>	
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

**Web Publish Dissertation:**      Graduates may elect to have their dissertation published to the School of Forestry Library Web (<https://library.for.nau.edu:8443>).

- YES – Publish my dissertation to the web.**  
 **NO – Do Not publish my dissertation to the web.**

Student Signature	Date
-------------------	------

Graduate Council Representative Signature	Date
---	------

Distribution:    Major Professor  
                       School File  
                       Graduate College  
                       Student