

Department of Forestry and Environmental Conservation (Forest Resources MS, Master of Forest Resources, Forest Resources PhD; Wildlife and Fisheries Biology MS, Master of Wildlife and Fisheries Resources, Wildlife and Fisheries Biology, PhD)

Graduate Student Handbook
2024-2025

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Clemson® University
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Our Mission

Clemson University's Department of Forestry and Environmental Conservation (FEC) prepares leaders in sustainable forestry, wildlife and fisheries sciences, and environmental conservation through excellence in instruction, scientific inquiry, and outreach to citizens of South Carolina, the nation, and the world.

Our Vision

We will LEAD on the Clemson University Campus and among our peers in:

- Providing the best student learning experiences possible
- Conducting advanced, society-changing conservation research and outreach
- Building an inclusive culture for students, staff, faculty, alumni, and stakeholders
- Providing access to historically under-represented groups to our degrees, research, and professions.

Land Acknowledgement

We acknowledge that the main campus of Clemson University occupies the traditional and ancestral land of the Cherokee People. Clemson's main campus is built on land seized through US military and diplomatic incursions culminating in the Treaty of Dewitt's Corner in 1777. This is also land on which people enslaved by the Pickens, Clemson, and Calhoun families lived and worked, and that was transformed into the campus of Clemson University through convict labor.

We make this acknowledgement to remember the histories of violence that anticipate our gathering here, to recognize Indigenous and Black claims to life and land, and to recenter those claims as we commit to better ways of caring for each other and for this land.

Clemson Graduate School Information

These guidelines supplement the current version of the Clemson University Graduate School Policy Handbook (<https://media.clemson.edu/graduate/website/files/pdfs/PolicyHandbook-complete-fall2023.pdf>)

The policies and procedures of the Graduate School have been established to ensure that a consistent set of standards are followed from the admissions process all the way through to the awarding of degrees for every Graduate School program.

Graduate School Forms

(<https://www.clemson.edu/graduate/students/forms.html>)

Graduate School Deadlines

(<https://www.clemson.edu/graduate/students/deadlines.html>)

Please note that all the forms referenced throughout this document can also be found on the Canvas page for FEC graduate students. References to Section numbers throughout this document refer to the Graduate School Policy Handbook and are intended to provide access to more detailed information about the topic in question.

Overview of Program

The Department of Forestry and Environmental Conservation contains two graduate programs, Forest Resources and Wildlife and Fisheries Biology. Each of these programs offers three degrees. Within Forest Resources, students may pursue a Master of Forest Resources (MFR, non-thesis), a Master of Science (MS), or a Doctor of Philosophy (PhD). Within Wildlife and Fisheries Biology, students may pursue a Master of Wildlife and Fisheries Resources (MWFR, non-thesis), a Master of Science (MS), or a Doctor of Philosophy (PhD).

A graduate degree in Forest Resources provides students with advanced training in scientific-based management of forest resources, forest products, and forest ecology. Graduates from the program are working in both private and public spheres to help ensure sustainability and quality of resources including timber, water, and recreational value on natural lands.

A graduate degree in Wildlife and Fisheries Biology provides students with advanced training in scientific-based conservation and management of wildlife and fisheries populations, habitats, and broader ecological communities. Graduates from the program have advanced to careers as biologists and ecologists with state and federal agencies, NGOs, and environmental consultants; environmental

educators and teachers; and as research scientists and faculty members with academic, agency, nongovernmental, and private institutions.

Goal

The goal of the graduate programs in Forestry and Environmental Conservation is to offer advanced training for scientific management, conservation, and research in areas related to natural resources. Graduates will gain the scientific and technical skills required to identify, articulate, and solve issues, needs, challenges, and scientific advances associated with the conservation and management of natural resources at the local, regional, national, and international scale. .

What FEC Graduates do

Areas of specialization within our department's graduate degrees are aligned with those of the student's major advisor. The most common areas of specialization include research topics in:

- Aquatic ecology and aquatic resource management
- Community ecology
- Conservation biology
- Ecosystem processes
- Fisheries ecology
- Forest ecology
- Forest health
- Forest operations
- Human dimensions of natural resources
- Natural resource economics
- Population biology
- Silviculture
- Soil science
- Wetland ecology
- Wildlife ecology

Professional Licensure

No professional licensure applies to the Graduate Programs in FEC. Students do have access to courses that satisfy certain requirements for certification by several natural resource-related organizations including The Society of American Foresters, American Fisheries Society, The Wildlife Society, and The Ecological Society of America.

Approved Locations and Modalities of Delivery

The Master of Wildlife and Fisheries Resources (MWFR) degree is approved for both online and traditional (in person, in classroom) delivery of content. The MWFR degree welcomes applications from international students. However, prospective international applicants should note that because the program is available entirely via an online (i.e., distance education) mode, the university is prohibited by U.S. federal regulations from issuing Certificates of Eligibility (I-20s or DS-2019s) for this program for purposes of applying for F-1 or J-1 visas. The MS, MFR, and PhD degrees are only approved for traditional content delivery although online classes may be taken to supplement coursework (also see course requirements below).

Research credits for the MS and PhD programs can be completed on the main campus, Research and Education Centers, or while engaged in field or lab research at other locations. Research credits are not a component of the non-thesis degrees.

Furthermore, the doctoral degree requires that a student be enrolled full-time for two consecutive semesters on Clemson University campus (*Section 2.5, Degree Requirements*). An alternative plan for an individual student may be proposed but requires approval by the Advisory Committee and Graduate School.

Basic Program Metrics

Typical time to degree completion (approximate; depends on student project and performance).

MFR (non-thesis)	2.0 years
MWFR (non-thesis).....	3.0 – 5.0 years
MS (thesis).....	2.0 - 2.5 years
PhD.....	4.0 – 5.0 years

Graduate Student Organizations

Natural Resources Graduate Student Association (NRGSA)

The Natural Resource Graduate Student Association is committed to creating, developing, and fostering interaction between graduate students, staff, and faculty among several departments and disciplines within the field of natural resources. Officers strive to represent the interests of graduate students in natural resources and related fields to the Administration and the University at-large through the Graduate Student Government, and to disseminate information to graduate students in natural resources and related fields. Becoming an active participant of the NRGSA not only helps you excel professionally and academically, but also introduces you to other graduate students.

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Admission Requirements

Requirements (in addition to Graduate School requirements)

A Bachelor of Science in a field related to natural sciences is desired, but not required, for all FEC Graduate Programs. The Graduate Record Examination (GRE) is not required but may be provided by an applicant as a means to offer an additional source for applicant evaluation. The GRE is encouraged for those applicants with bachelor’s degrees unrelated to natural resources, or for applicants with a low GPA. Typically, international students are requested to demonstrate English proficiency by means of standardized test scores, such as TOEFL, but other means as detailed in the Graduate School Policy Handbook are also acceptable (Section 1.1, Admission Requirements).

Academic records, standardized test scores, letters of recommendation, and personal statements are all important components of an application that are considered in granting admission. Applicants to the MFR, MS, and PhD programs must have a faculty member that has expressed a willingness to serve as a Major Advisor for the student to be admitted. For students pursuing a Master of Wildlife and Fisheries Resources (MWFR), faculty within the MWFR Program serve as Major Advisors and no agreement to serve as advisor is needed prior to applying. Applicants to all other programs must identify or be placed with a suitable Major Advisor.

Prospective applicants to the MFR, MS, and PhD programs are encouraged to contact faculty directly to identify a suitable advisor prior to applying. The Graduate Coordinator does not place applicants with potential advisors or advocate on behalf of applicants to faculty members. A final recommendation for acceptance into one of our programs requires the concurrence of a faculty member to serve as Major Advisor.

Dates and Deadlines

MWFR applicant deadline and suggested deadline for all domestic on-campus applicants

Spring Entrance	October 31 st
Summer Entrance	February 28 th
Fall Entrance	June 30 th

International applicants (per Graduate School recommendations)

Spring Entrance	October 15 th
Summer Entrance	February 28 th
Fall Entrance	April 15 th

Support Mechanisms

Most students in the department’s on-campus graduate programs are supported by a Graduate Research Assistantship (GRA). Generally, the GRA is derived from external sources of funding

provided to a faculty member and related to a specific project with which the student will assist while pursuing related research objectives.

Additionally, there are some Graduate Teaching Assistantships (GTA) available. The GTA is typically associated with a lab, and the student will be responsible for providing content delivery and general assistance to the instructor of record.

Both types of assistantships are only available through approval by a faculty member in the department who directly manages the external funding or acts as the instructor of record for a course with an available GTA. Final appointments must be approved by the department chair. GRAs and GTAs are not available to incoming students through any at-large assignments at the department level.

Some fellowships and awards are also available to assist with tuition or expenses (see “Assistantships” tab at the following link for a partial list: <https://www.clemson.edu/cafls/forestry-environmental-conservation/students/graduate.html>). Tuition and fees can be found using the [University’s tuition and fee calculator](#).

Appointment standards for Graduate Assistantships (*Section 3.2, Assistantships and Fellowships*)

- Graduate assistants are granted partial remission of tuition.
- Research or teaching assistantships are provided from the major advisor’s grants or department funds, as available.

A research assistantship includes project deliverables as specified by sponsor agreements, which are the responsibility of the student and their adviser to address.

- Partial or full teaching assistantships may be provided. Teaching effectiveness may be assessed prior to TAs being awarded.
- For all students on an assistantship, minimum enrollment is 9 hours per semester during the academic year and 6 hours for full summer term. Minimum enrollment for students not on assistantship is 12 hours per semester during the academic year for full-time status. Graduate students who are Clemson employees should refer to the Graduate School Handbook for additional details (*Section 3.2, Student Responsibilities*).

Hours of work for Graduate Assistantships (*Section 3.2, Assistantships and Fellowships*)

- Details specific to an individual’s assistantship will be included in the letter of offer.

- Average work effort for a 0.5 FTE assistantship is 20 hours per week and may be directed by the advisor to support research other than thesis or dissertation research.
- Holidays (spring break, fall break, Christmas holidays, etc.) are granted for graduate assistants; students are still responsible for meeting deadlines and expectations for project deliverables, regardless of holidays.
- Domestic students are limited to 28 hours per week from all jobs on campus during the fall, spring, and summer semesters. International students are prohibited by Federal law (Federal Code CFR 214) from working more than 20 hours per week when school is in session (inclusive of total hours worked from all jobs held by the student on campus).
- Violation of the hourly limit by the student could lead to loss of future authorization to work in the USA and having to apply for reinstatement of student status. Violation of this hourly limit by the employer could lead to civil monetary fines or imprisonment.

A few fellowships or other merit-based scholarships are also available to be awarded on a competitive basis. Prospective advisors should inform students of these opportunities as appropriate.

- Fellowships awarded from sources inside or outside the Department may be given to graduate students, in addition to any previously promised or negotiated assistantship.
- Out-of-state tuition may be waived for non-resident students receiving a fellowship, but students pay full in-state tuition fees rather than the reduced rate paid by graduate assistantships.
- In some cases, the department may award fellowships under its control, in lieu of an assistantship.
- Several fellowships also are available to graduate students through the Graduate School and through the College of Agriculture, Forestry & Life Sciences. Deadlines for applying for these fellowships are usually in February and are announced via email.

Student Hourly Employment

If funds are available and the graduate student is enrolled for at least 3 credit hours during both fall and spring and at least 1 credit hour during summer sessions, hourly employment is permitted in place of or in addition to an assistantship. As stated above, Domestic students are limited to 28 hours per week from all jobs on campus during fall and spring semesters. International graduate students should review the section on “International Student Employment” in the Graduate School’s Policies and Procedures manual for the current academic year, which contains information regarding hourly employment both on and off campus (*Section 3.5, International Student Employment*).

Fees

Fees are the responsibility of the student. Each semester, there are fees that each student must pay that include access to the health center, gymnasium (Fike), and software. For more information on current fees, visit the website for Student Financial Services (<https://www.clemson.edu/sfs/>).

Transfer Credits

The Graduate Programs in FEC follow Graduate School guidelines for transfer credits (*Section 2.3, Advisor and Advisory Committee*). The Advisor and the Graduate Program Coordinator must approve all transfer credits.

Requirements for Degree

Minimum Degree Requirements

The minimum requirements for each of our degree programs are detailed below. Please note that your major advisor or Advisory Committee (AC) may request additional coursework depending upon the educational background and the research emphasis of individual students. Such requests will be specified in the Plan of Study (GS2 Form, see below). Please note that the minimum credit hours typically required for the doctoral degree (30 credit hours) may be reduced by 6 credit hours for students pursuing an en route master's degree (*Section 2.5, Degree Requirements*). Currently, the Department does not limit the number of online courses that contribute to degree requirements for the MS and PhD programs although consent of the instructor and approval by the student's Advisor are required.

Following guidelines of the Graduate School, a minimum grade of C- (or a Pass for Pass/Fail courses) must be earned for all courses/credits listed on the GS2 (see description of GS 2 below). Graduate students are placed on academic probation when their cumulative grade point average (GPA) < 3.0. A student on academic probation will be required to file a Graduate Student Plan of Success (GSPS). Being placed on academic probation does not automatically disqualify a student from holding an assistantship but may affect that opportunity. Graduate students with a GPA < 2.0 will be dismissed by the Graduate School with exceptions for first semester students and those with only non-graded credits (*Section 2.7, Special Circumstances*).

Graduate students on assistantships must register for a minimum of nine credit hours during the fall and spring semesters to be considered full time. If a student's assistantship continues into the summer, then the student must enroll in six credit hours. Students may take a maximum of 15 credit hours during the fall or spring semester.

Non-thesis degrees

Program Requirements:

- Advisory Committee Selection (MFR, MWFR)
- Plan of Study/GS2 (MFR, MWFR)
- Coursework (MFR, MWFR)
- Research and Project (MFR)
- Final Oral Exam (MFR)
- Project Defense/GS7M (MFR)

Each of these requirements are discussed in more detail below.

Master of Forest Resources (MFR): Students must successfully complete at least 36 credit hours of graduate coursework, not including credits earned for thesis research (FOR 8910). At least 18 credit hours must be from courses numbered 7000 or above, including at least 2 credit hours of Special Problems (FOR 7070). Students are required to take 2 credits through one of the following options: (1) by enrolling in Graduate Seminar (FNR 8080, 1 credit, in-person) twice during their program of study (e.g., during the first and last semester), (2) by enrolling in Graduate Seminar (FNR 8080, 1 credit, in-person) once and in a readings class (variable credits) once (e.g., Ecology Reading Group BIOL 8070, or (3) by enrolling in 2 credits of a readings class (e.g., Ecology Reading Group twice). Reading classes other than Ecology Reading Group can satisfy this requirement, as can seminar courses from other departments. The option chosen must, however, be approved by the Advisor and Graduate coordinator via the GS2. Seminar or reading group classes contribute to the required 36 credits of coursework. Requirements for MFR students who do not have a degree in forestry may include those required for a bachelor's degree in forestry, including summer camp. Specifically, FOR 2050, 2210, 2060, 2510, 2520, 2530, 2540, 3020, 3040, 3080, 3410, 4060, 4080, 4100, 4130, 4150, 4160, 4170, 4180, 4250, 4310, 4340, 4650, and FNR 2040 may be required as coursework. Equivalent course substitutions may be approved by the instructor of the relevant forestry course and/or the major advisor. A forestry review committee composed of 3 faculty members holding a first professional degree in forestry may approve substitutions in cases where course equivalency is not obvious. All required courses will be taken for a grade (A to F; not pass/fail).

Master Wildlife and Fisheries Resources (MWFR): Students must successfully complete at least 30 credit hours of graduate coursework. Students are expected to take Graduate Seminar (FNR 8080) twice, or a combination of FNR 8080 and other graduate reading group or seminar courses, as approved by the advisor, for a total of ≥ 2 credits. Seminar or reading group classes contribute to the required 30 credits of coursework. At least 50% of the total graduate credit hours approved on the GS-2 must be selected from courses at the 8000- level or above.

GIS Applications in Natural Resources Concentration: Within the MWFR degree we offer an optional concentration in geographic information systems (GIS). The GIS concentration offers a flexible, three-course sequence of advanced training in geospatial technology specifically targeted to

the natural resources profession. Upon completion, students demonstrate expertise in a variety of ESRI GIS and Mapping products, GIS analyses, and remote sensing technologies.

Students must take three of the following courses:

- FOR 6340 – Geographic Information Systems for Natural Resources – 3 credits
- FOR 8160 – Remote Sensing and GIS in Natural Resources – 3 credits
- WFB 8050 – GIS Analysis in Natural Resources – 3 credits
- WFB 8640 – Spatial Hydrology – 3 credits

Master of Science degrees (with thesis)

Program Requirements:

- Advisory Committee Selection
- Plan of Study (Filing GS2)
- Complete Annual Evaluation with Faculty Advisor
- Thesis Proposal Preparation and Defense (Filing GS- Research Approval Form)
- Coursework
- Research and thesis
- Thesis Defense (Filing GS7M)

Each of these requirements are discussed in more detail below.

Master of Science in Forest Resources (MS FOR): Students must successfully complete at least 24 credit hours of graduate coursework plus at least 6 credit hours of thesis research (FOR 8910). Students are required to take 2 credits through one of the following options: (1) by enrolling in Graduate Seminar (FNR 8080, 1 credit, in-person) twice during their program of study (e.g., during the first and last semester), (2) by enrolling in Graduate Seminar (FNR 8080, 1 credit, in-person) once and in a readings class (variable credits) once (e.g., Ecology Reading Group BIOL 8070, or (3) by enrolling in 2 credits of a readings class (e.g., Ecology Reading Group twice). Reading classes other than Ecology Reading Group can satisfy this requirement, as can seminar courses from other departments. The option chosen must, however, be approved by the Advisor and Graduate coordinator via the GS2.

Seminar or reading group classes contribute to the required 24 credits of coursework. No more than 6 credit hours of the 24 required can be Special Problems (FOR 7070). There is no limit, however, to the allowable credit hours of Selected Topics (FOR 8930). At least 50% of the total graduate credit hours approved on the GS-2, exclusive of thesis research, must be selected from courses at the 8000-level or above.

Master of Science in Wildlife and Fisheries Biology (MS WFB): Students must successfully complete at least 24 credit hours of graduate coursework plus at least 6 credit hours of thesis research (WFB 8910). Students are required to take 2 credits through one of the following options: (1) by enrolling in Graduate Seminar (FNR 8080, 1 credit, in-person) twice during their program of

study (e.g., during the first and last semester), (2) by enrolling in Graduate Seminar (FNR 8080, 1 credit, in-person) once and in a readings class (variable credits) once (e.g., Ecology Reading Group BIOL 8070, or (3) by enrolling in 2 credits of a readings class (e.g., Ecology Reading Group twice). Reading classes other than Ecology Reading Group can satisfy this requirement, as can seminar courses from other departments. The option chosen must, however, be approved by the Advisor and Graduate coordinator via the GS2.Seminar or reading group classes contribute to the required 24 credits of coursework. No more than 6 credit hours of the 24 required can be Special Problems (WFB 8630). There is no limit, however, to the allowable credit hours of Selected Topics (WFB 8610). At least 50% of the total graduate credit hours approved on the GS-2, exclusive of thesis research, must be selected from courses at the 8000-level or above.

Doctor of Philosophy degrees (with dissertation)

Program Requirements:

- Dissertation Advisory Committee Selection
- Preparing a Plan of Study (Filing GS2)
- Completing Annual Evaluation with Faculty Advisor
- Dissertation Proposal Preparation and Defense (GS- Research Approval Form)
- Coursework
- Comprehensive Exam (Filing GS5D)
- Research and Dissertation
- Dissertation Defense (Filing GS7D)

Each of these requirements are discussed in more detail below.

Doctor of Philosophy in Forest Resources (PhD FOR): A minimum of 30 credits beyond the master's and 60 credits beyond the bachelor's degree, inclusive of research credits, are required to earn a PhD in Forest Resources. A minimum of 18 credits of doctoral research (FOR 9910) is required. A minimum of 12 credit hours of non-research courses numbered 8000 or above is required, of which at least 8 credit hours must be FOR courses. Special Problems (FOR 7070) can be taken for a maximum of 6 credit hours of the 24 required. Students are required to take 2 credits through one of the following options: (1) by enrolling in Graduate Seminar (FNR 8080, 1 credit, in-person) twice during their program of study (e.g., during the first and last semester), (2) by enrolling in Graduate Seminar (FNR 8080, 1 credit, in-person) once and in a readings class (variable credits) once (e.g., Ecology Reading Group BIOL 8070, or (3) by enrolling in 2 credits of a readings class (e.g., Ecology Reading Group twice). Reading classes other than Ecology Reading Group can satisfy this requirement, as can seminar courses from other departments. The option chosen must, however, be approved by the Advisor and Graduate coordinator via the GS2.Seminar or reading group classes contribute to the required 12 credits of non-research 8000-level coursework.

Doctor of Philosophy in Wildlife and Fisheries Biology (PhD WFB): A minimum of 30 credits beyond the master's and 60 credits beyond the bachelor's degree, inclusive of research credits, are required to earn a PhD in Wildlife and Fisheries Biology. A minimum of 18 credits of doctoral research (WFB 9910) is required. A minimum of 12 credit hours of non-research courses numbered 8000 or above is required. The coursework must include two graduate-level courses in statistics, unless this requirement is modified or waived by the AC and Graduate Coordinator (e.g., if the student had sufficient training in statistics prior to entering the doctoral program). Students are required to take 2 credits through one of the following options: (1) by enrolling in Graduate Seminar (FNR 8080, 1 credit in-person) twice during their program of study (e.g., during the first and last semester), (2) by enrolling in Graduate Seminar (FNR 8080, 1 credit, in-person) once and in a readings class (variable credits) once (e.g., Ecology Reading Group BIOL 8070, or (3) by enrolling in 2 credits of a readings class (e.g., Ecology Reading Group twice). Reading classes other than Ecology Reading Group can satisfy this requirement, as can seminar courses from other departments. The option chosen must, however, be approved by the Advisor and Graduate coordinator via the GS2. Seminar or reading group classes contribute to the required 12 credits of non-research 8000-level coursework.

Advisory Committees and Plan of Study

The first significant step in the graduate program for most students is the selection of an Advisory Committee (AC). The formation of the AC should be done in consultation with your major advisor. The AC acts as representatives of the faculty and governs nearly all aspects of your graduate program. Care should be exercised to select committee members that will actively and meaningfully contribute to the student's education, research, and professional development. Committee selection should be completed by the middle of the second semester for students in one of the MS programs, or by the middle of the fourth semester for students in one of the PhD programs, although the Department strongly recommends that committee selection begin within the first semester of enrollment if feasible. For students pursuing the Master of Wildlife and Fisheries Resources degree, only a Committee Chair is needed, and this role is filled by the faculty of the MWFR degree program.

FEC degree programs follow the Graduate School Policy Handbook regarding the number of members and composition of the advisory committee. Although a brief explanation is offered here, we encourage all students to consult the Graduate Policy Handbook for complete details (*Section 2.3, Advisor and Advisory Committee*).

- A minimum of three graduate faculty members must be selected by a student seeking a MS degree.

- A minimum of four graduate faculty members must be selected by a student seeking a PhD degree.
- All members of the advisory committee must be current members of the Graduate Faculty at Clemson University and classified as either Graduate Advising Faculty (approved to be regular members of an advisory committee) or Graduate Directing Faculty (approved to direct theses or dissertations and chair graduate student advisory committees; *Section 2.2, Graduate Faculty Status*). Typically, tenure-track faculty (e.g., faculty with the rank of Assistant Professor, Associate Professor, Professor) and Administrative Faculty (e.g., Chair, Director, Assoc. Dean) hold at least one of these classifications. Scientists from the South Carolina Cooperative Fish & Wildlife Research Unit are classified as Graduate Directing Faculty. The Graduate Program Coordinator or Graduate Student Services Manager can assist in determining the Graduate Faculty status of an individual.
- The AC may include individuals who are external to the University (e.g., a faculty member from another University, agency biologist, NGO scientist). Such external committee members may not serve as chair of the student advisory committee and must first be added as a member of the Graduate Faculty before being officially added to the advisory committee. Students seeking to add an Advisory Committee member who is not currently on the Graduate Faculty should consult their major advisor to begin the process which can take 1-2 months to complete. The Tenure, Promotion, and Reappointment Committee (TPR) of FEC will review all such requests and subsequently make recommendations for or against appointment as Graduate Faculty. When appropriate (i.e., based on terminal degree or other professional qualifications), the TPR Committee may choose to restrict the service of non-tenure track individuals appointed to the Graduate Faculty to MS-level Advisory Committees. The form to initiate this request can be found here:
<https://www.clemson.edu/graduate/academics/forms-and-requests/html>.
- The majority (i.e., more than one-half, > 50%) of the advisory committee, including the major advisor, must be comprised of full-time Clemson University faculty. The chair, or co-chair, or at least half of the committee must have a primary appointment in the department or school housing the student's degree program. A list of departmental faculty can be found at:
<https://www.clemson.edu/cafls/forestry-environmental-conservation/directory/faculty.html>. The Graduate Program Coordinator or Graduate Student Services Manager can also assist in determining if a prospective committee member satisfies these requirements. Scientists from the South Carolina Cooperative Fish & Wildlife Research Unit can serve as major advisors and contribute to the majority requirement. Faculty from outside of FEC and outside of CAFLS can serve as committee members but do not contribute to the majority requirement. Research faculty (e.g., Research Assistant Professor), extension faculty, emeritus faculty, lecturers, and adjunct faculty may be able to serve on an advisory committee, but do not

count toward the majority requirement. Note that a strict majority is required in the above rules. For example, a four-person committee comprised of two full-time, tenure-track Clemson faculty plus two faculty members from outside of Clemson University would not meet the standards for committee composition (i.e., only 50% of the AC, not a majority or > 50%, are Clemson faculty). This rule is intended to ensure that the faculty of Clemson University maintain oversight of the academic standards for their degree programs.

- Students are advised to consult with their major advisor and/or the Graduate Program Coordinator prior to changing the AC, so that the implications of the change on progress toward degree are fully understood. If the status of a committee member changes during the pursuit of your degree (e.g., the faculty member leaves Clemson University for another position or retires), please consult with your advisor and the Graduate Program Coordinator to ensure this change does not necessitate a revision of committee membership.

Once an advisory committee is formed and approved, the Plan of Study (GS2 Form; <http://www.clemson.edu/graduate/students/plan-of-study/index.html>) can be filed with the Graduate School. This online form is completed in a two-step process.

First, the student must submit their proposed advisory committee (AC) which will be reviewed and considered for approval by each member of the AC and by the Graduate Program Coordinator.

Once the AC selection is approved, the student submits a Plan of Study which includes all courses required by the degree program plus any additional requirements imposed by the major advisor or the AC. The submitted GS-2, Plan of Study, will then be routed to the major advisor and graduate coordinator for approval.

The GS2 form can be revised to restructure the coursework or advisory committee if changes in course offerings, research emphasis, committee member availability, or other circumstances warrant. It is recommended that students submit an initial plan of study before enrolling in the majority of credit hours required for their degree. The final GS2 must be submitted to Enrolled Services (i.e., must be approved by AC and Graduate Coordinator) approximately one week prior to the start of the semester in which the student plans to graduate. Check the Graduate School deadlines for graduation for exact dates each semester.

If circumstances (e.g., different coursework than that originally proposed is taken) warrant a change in the Plan of Study, as is often the case, the student may submit a modified GS2 for approval. A GS2 that correctly reflects the student's coursework must be approved by the deadline set before graduation. See the Graduate School Policy Handbook for details.

Preliminary Exams

Preliminary exams are not conducted for FEC Graduate Programs.

Research Proposals, Comprehensive Exam, and Final Exam

MFR, MS FOR, MS WFB

Research Proposal: A research proposal should be delivered to your AC (except for MFR students, unless otherwise noted by your AC). Following approval of the research proposal, the advisor should file the GS-Research Approval form (<https://www.clemson.edu/graduate/files/pdfs/GS-ResearchApproval.pdf>) with the Graduate School and submit a copy to the Graduate Student Services Manager. The department does not have a standard format for the research proposal, so each student should work with their major advisor to present the format best suited for a given project.

Comprehensive Exam: A comprehensive examination is not required for these degrees.

Final Exam: The final oral exam occurs during the defense of thesis (MS) or project (MFR). The exam can cover general knowledge in subject matter as well as specific concepts related to the thesis or project. Detailed policies regarding the final exam are contained in the Graduate School Policy Handbook. The advisor must notify the Graduate School of the results of the exam using Form GS7M (<http://www.clemson.edu/graduate/files/pdfs/GS7M.pdf>)

MWFR: There is no requirement for a proposal, comprehensive examination, or final examination.

PhD FOR, PhD WFB

Research Proposal: A research proposal is required and will be reviewed by the AC. Following approval of the research proposal, the advisor should file the GS-Research Approval form (<https://www.clemson.edu/graduate/files/pdfs/GS-ResearchApproval.pdf>) with the Graduate School and submit a copy to the Graduate Student Services Manager. If significant deviations from the approved plan become necessary, another proposal defense may be warranted. The department does not have a standard format for the research proposal, so each student should work with their major advisor to present the format best suited for a given project. PhD students are required to provide a public presentation of their research proposal to the department (*Section 2.5, Degree Requirements*).

Comprehensive Exam: A comprehensive examination will be used to determine the student's scholarly development and ability to develop logical thought and to implement concepts. The exam is typically scheduled after the student has completed most of the required course work (e.g., near the midpoint of the student's program of study). The comprehensive examination is composed of both written and oral components, which are developed by the advisory committee. Students should consult with members of their committee well in advance of the exam to identify steps for exam preparation. The written component tests knowledge of the topics represented and defined by the

committee, synthetic thinking, writing ability, and comprehensive understanding not only of the given field but any intersecting with it. The oral portion provides an opportunity for the AC to build upon the written responses, and to test the student in other areas the committee feels would be beneficial to explore.

A majority decision from the AC is required for the student to earn a grade of 'pass' on the exam. At the discretion of a majority of the AC, the exam may be retaken in whole or in part if performance was unsatisfactory (i.e., not a pass). Successful completion of this examination changes the status of the student from PhD Student to PhD Candidate after the committee has completed and signed form GS5D. The Comprehensive Exam must be completed at least six (6) months prior to the anticipated graduation date (*Section 2.5, Degree Requirements*).

Final Exam / Final Defense of Dissertation: The final defense of the dissertation is comprised of two primary components. The first is a research seminar which is open to the public and the second is a closed oral examination (i.e., attended only by the AC). The AC has discretion over format and content of the presentation and final oral examination. Detailed policies regarding the dissertation defense and final oral examination are contained in the Graduate School Policy Handbook (*Section 2.6, Nearing Graduation*).

Note to Advisory Committees of all degree types with a final exam: An Assessment Report must be submitted following the final exam. These reports can be obtained from, and should be submitted to, the Graduate Student Services Manager.

Expectations for Thesis/Dissertation

The purpose of a MS Thesis or a PhD Dissertation is to demonstrate your ability to:

- Formulate a research problem.
- Demonstrate knowledge relevant to a meaningful resolution of a specific problem or question.
- Effectively plan the work leading to the completion of the problem.
- Analyze and interpret data.
- Report the results of your research in a concise, precise, professional manner that would be suitable for a peer-reviewed journal.

A PhD dissertation should also demonstrate your ability to contribute significant new understanding to, and therefore enhance the breadth of, your field of study.

Development and submission of a thesis or dissertation – advice, guidance, and special circumstances

- The thesis or dissertation must be prepared in accordance with guidelines established by the Graduate School (<https://www.clemson.edu/graduate/academics/theses-dissertations/index.html>)
- It is the responsibility of the student to know and adhere to all deadlines. Please refer to the list of deadlines at <https://www.clemson.edu/graduate/students/deadlines.html> to ensure timely completion of all requirements for your degree.
- Students should not submit manuscripts or chapters of the thesis or dissertation to the AC without first receiving feedback and permission from the major advisor.
- Students should consult with the major advisor and AC regarding the review time needed for either individual chapters or the complete thesis/dissertation prior to submitting to these individuals for review. The Department recommends that at least 2 weeks be provided for the review of a thesis and at least 3 weeks for the review of a dissertation.
- Students should not schedule a committee meeting or defense prior to receiving permission from the major advisor and the AC.
- The thesis or dissertation defense will include a presentation of your work to faculty, students, cooperators, and other interested parties. This presentation is typically given on campus with a remote option available for those who cannot attend in person. The presentation is open to the public. The major advisor or Graduate Coordinator can provide advice on the presentation.
- When scheduling the defense, allow enough time following your defense to complete revisions and still meet Graduate School deadlines. The more feedback you receive and integrate prior to your defense, the less work you'll be faced with after the defense.
- Your defense must be placed on the Graduate School calendar at least 10 days prior to the defense, using their online form at <https://www.clemson.edu/graduate/calendar/defense-form.html> same time (or before), the Department of Forestry and Environmental Conservation must be notified of the date and location of the defense. This notification should be given to the Graduate Student Services Manager. Notification of date of defense must be received by the Dean's Office (via Student Services Coordinator) 14 days prior to your defense.
- Following a successful defense, and after making any corrections required by your advisory committee and major advisor, the student can then submit the thesis or dissertation to the Graduate School for formatting review. The Manuscript Review Office must approve the final electronic version before the student can graduate.
- Electronic submission of the thesis or dissertation is required; hard copies are no longer acceptable.
- Whether patentable or not, any inventions, discoveries, or developments which are conceived, developed, or reduced to practice by graduate students during their research

activities are retained by Clemson University, as set forth in the Faculty Manual.

<https://www.clemson.edu/faculty-staff/faculty-senate/manual.html>

- Students are encouraged to publish their research in appropriate outlets. In cases where students have not made significant progress towards submission within 12 months of graduation, the major advisor may pursue publication. Student co-authorship will be maintained. Copyright is subject to University policy and organizations responsible for publishing or distributing copyrighted materials (i.e., scientific journals). A plan for publication should be discussed with the advisor prior to defense. Publishing prior to defense is acceptable, provided the AC is apprised and given an opportunity to review drafts and authorship contributions are discussed and documented.
- Students should consult Clemson University data repository and ownership rules regarding data archiving.
- Students associated with confidential projects must have prior approval for the use of results in preparing reports, theses, or dissertations in fulfillment of degree requirements. There are a variety of reasons why it may be appropriate to embargo a thesis or dissertation for a short period of time. Students should consult with their advisor regarding the full implications of an embargo (*Section 2.6, Nearing Graduation*).

Additional Requirements

Some of the trainings listed below are mandatory for all new students (e.g., hazardous waste training), whereas others may be required based on the subject of your research (e.g., animal welfare training).

Documentation of completion of the training must be submitted to the Graduate Program Coordinator or Graduate Student Services Manager.

Hazardous Waste Training

- All students
- <https://www.clemson.edu/research/safety/BioRAFT/Training%20Materials.html> (requires login)
- <http://www.clemson.edu/research/safety/training/>

Chemical Hygiene

- Students doing any kind of laboratory work.
- <https://www.clemson.edu/research/safety/BioRAFT/Training%20Materials.html> (requires login)
- <http://www.clemson.edu/research/safety/training/>

Biohazardous Waste Management in

- Students working with biological materials in the laboratory.
- <https://www.clemson.edu/research/safety/BioRAFT/Training%20Materials.html> (requires login)

- <http://www.clemson.edu/research/safety/training/>

Animal Welfare Training (through the Collaborative Institutional Training Initiative)

- Students working with vertebrate animals.
- <http://www.clemson.edu/research/compliance/citi.html>
- <https://www.clemson.edu/research/division-of-research/offices/orc/iacuc/training.html>

Human Subjects Research Training (through the Collaborative Institutional Training Initiative)

- Students working with humans as subjects in research.
- <http://www.clemson.edu/research/compliance/irb/training.html>

Teaching Assistant/Grader Training

- All new TAs and Graders should enroll and complete this training within 90 days of being enrolled in the program. The Grad Teaching program was created with support from the Graduate School, Clemson Online, the Office of Inclusion and Equity, the Academic Success Center, and the Office of Student Advocacy and Success.
- <https://clemson.bridgeapp.com/learner/programs/5669568c/enroll> (requires login)

Driver Training

- Students who will be operating a state vehicle to perform their job duties (as either RA or TA) are required to complete Defensive Driving Courses within 90 days of employment.
- <https://www.clemson.edu/administration/risk/automobiles-fleets/fleet.html>

Suggested Timetable of Student Progress

Time	Action
Before applying (except MWFR program)	Secure application support from prospective advisor.
First Semester	<ul style="list-style-type: none"> • Introduce yourself to departmental faculty and staff. Complete necessary trainings (see above under “Additional Requirements”). • Become acquainted with policies for use of vehicles, laboratories, and Clemson Experimental Forest. In consultation with your major advisor, begin project literature review. • Select advisory committee (recommended)
Middle of second semester (MS students)	File GS2, submit research proposal to committee
Beginning of fourth semester (PhD students)	File GS2, submit research proposal to committee and deliver public presentation of research project to the department
Each year	Meet with Advisory Committee to provide update on progress.
No later than 6 months prior to graduation (PhD only)	Complete comprehensive examination. Typically done 1 – 2 years prior to graduation. GS5D should be submitted following comprehensive exam (file concurrently with GS-Research approval).
Final semester	<ul style="list-style-type: none"> • Apply for graduation through iRoar. • Provide advisory committee a final draft of your thesis/dissertation at least two weeks before defense date (does not apply to MWFR). • The final seminar and defense should be set at least one month in advance of the date, and the date should provide time for you to revise the thesis/dissertation following feedback from the advisory committee. A two-week minimum between the defense and the graduate school’s final due date is recommended (does not apply to MWFR). • Order cap and gown (if attending graduation) • Submission of GS7 form (does not apply to MWFR) • AC submits departmental assessment report to Student Services Coordinator.

Standards of Performance

Annual Review of Progress

It is strongly recommended that graduate students meet at least once a year with their advisory committee to present progress on research, coursework, and professional development. The Advisory Committee should identify opportunities that will improve the research products and further the student's development as a professional in the field.

An annual review of progress is mandatory for all students on any type of assistantship, and is strongly recommended for all other students, except those in the MWFR program. The form is completed by the student's direct supervisor for the assistantship (which may not be the major advisor for GTAs). This form should be used to highlight areas where the student is excelling as well as offer opportunities for further development.

The Graduate School provides two forms for conducting annual reviews, and supervisors can choose whichever is preferred. Links to the forms can be found at <http://www.clemson.edu/graduate/faculty-staff/> (login required).

Academic Performance

The Graduate Program in FEC follows Graduate School policy and expectations for academic performance.

Professional Requirements and Expectations

Publications: Peer-reviewed publications typically represent the manner in which scientific results are disseminated throughout the scientific community. Students are encouraged to work with their advisor and other collaborators to prepare research results for publication in a timely manner.

FEC Speaker Series Attendance: Each spring and fall semester, the Natural Resources Graduate Student Association hosts a speaker series. All faculty, staff, and students are encouraged to attend and engage in these activities.

Teaching: Many graduate students will have Teaching Assistantships during pursuit of the degree. Graduate students are encouraged to work with the instructor of record to grow as an educator. All students are expected to treat one another with respect and dignity in all interactions.

Professional meetings: Graduate students are encouraged to attend University, local, regional, national, and international meetings. Students should consult with their advisors to determine the appropriate venues for such attendance.

Natural Resources Graduate Student Association (NRGSA): NRGSA provides a valuable professional development resource by creating networking and teambuilding opportunities. All graduate students are encouraged to participate in the association.

Performance Expectations for Graduate Assistants

The Graduate Programs in FEC follows Graduate School guidelines on performance expectations for Graduate Assistants.

Attendance Policies

The Graduate Programs in FEC follows Graduate School guidelines on performance expectations on attendance.

Administrative

Email Access/Use

Email is the most common medium used by the FEC department and the University to communicate with you. Many events and information of importance to your success in the program are announced via email. It is very important that you check your Clemson email regularly, at least once a day. If you are requested to respond, you should do so in a timely manner.

Mailboxes and Personal Mail

All personal mail should be directed to your home address. The department assumes no responsibility for personal deliveries.

Outgoing Mail

Both U.S. and campus mail, can be placed in the department mailroom. You must provide adequate postage for any U.S. mail. International mail must be taken to the U.S. Post Office.

Ordering Supplies and Equipment

If you order equipment or supplies without the permission of your Faculty Advisor or the Department Chair, you will be responsible for paying the bill. In addition, students placing orders need to be aware of state purchasing regulations and may be liable for paying the bill in the event of violations. When placing orders over \$2,500 (total of the entire purchase, not per item, including tax and shipping and handling), you must see the departmental accountant prior to making the order/purchase.

Keys

If a graduate student needs a key to an office space in the building, they will need to contact Vickie Byko (vbyko@clemson.edu) in Lehotsky Hall 261. A Key Request Form must be completed and signed by the graduate student to check out a key. Students leaving the University through graduation, or for any reason, must return all keys to the department office. A fee will be charged for any unreturned key.

The key(s) issued to you are for your use exclusively. You must never loan keys to anyone else, not even another graduate student. Failure to observe this rule may result in revocation of your key privilege. Unauthorized possession of a key to a university building is prohibited by South Carolina law. You are responsible for locking all rooms to which you have gained access with a key.

Building access is restricted to those with permission as coded to your Clemson ID card (and available via your digital Clemson ID on a smartphone).

Building Security, Maintenance

Report building problems to the department office (Lehotsky Hall 261). If something major is found wrong outside of normal office hours, inform your Faculty Advisor after you have called University Security at 864-656-2222.

Copy Machine Use

Graduate students may use the departmental copier (Lehotsky Hall 247) for necessary research work with the permission of their faculty advisor and consent to use their copy code.

Vehicle Use Policy

University vehicles are only available to graduate students for authorized use and permission for use is contingent upon the approval of a properly completed travel request. Vehicles are to be used for official University activities only. Contact Bruce Kesler (bkesler@clemson.edu) for more information regarding vehicle reservations.

Equity and Safety in the Field

Safety looks different depending on who you are.

Some aspects of field work that can lead to decreased equity and safety include the presence of power imbalances, a confusion about norms in a different/outdoor setting, less oversight, and events when the investigator's identity does not match typical users' identity.

Actions we can all take to make field and field lab work safer and more equitable:

- Keep official paperwork, with your permission to be on the site, with you at all times.
- Leave the keys with the vehicle (truck, boat, 4-wheeler) or in a spot where everyone always has access to them (or make multiple copies).
- Wear clothing that affiliates you with Clemson or the organization you are working with.
- Be aware of cell phone coverage or lack of it, request a satellite phone or other satellite device if needed.
- If you are conducting field work alone, be sure to leave a work plan and return plan with someone.
- Conduct a pre-field work/lab orientation with information on risks, bathroom situation, how to get help if something goes wrong, and ways to report harassment.
- Provide safe accommodations with locking doors whenever possible.
- You are more important than the data and you have a right to feel safe while in the field.

Resources related to equity and safety in the field:

- Outdoor Labs: Reducing Sexual Harassment Risk: <https://clemson.instructure.com/courses/180600/files/15454734?wrap=1>
- Principles for Equitable Fieldwork: <https://clemson.instructure.com/courses/180600/files/15454730?wrap=1>
- LGBTQ+ Inclusion during Ecological Fieldwork: <https://besjournals-onlinelibrary-wiley-com.libproxy.clemson.edu/doi/10.1111/1365-2664.14339>
- Anit-racist Interventions in Science Departments: <https://clemson.instructure.com/courses/180600/files/15454729?wrap=1>
- Diversity Beyond Demographics: <https://clemson.instructure.com/courses/180600/files/15454731?wrap=1>
- Safety definitely looks different depending on who you are.: <https://media.nature.com/original/magazine-assets/d41586-020-02328-y/d41586-020-02328-y.pdf>
- Gender-based Hostility During Fieldwork: https://www.chronicle.com/article/how-to-avoid-gender-based-hostility-during-fieldwork/?cid2=gen_login_refresh&cid=gen_sign_in

- Creating a Culture Shift in Fieldwork: <https://news.ucsc.edu/2018/10/fieldwork-workshop.html>
- Preventing Harassment in Fieldwork Situations: http://faculty.washington.edu/kate1/ewExternalFiles/RespectandEqualityinFieldwork_RecommendationsandReportUW_Jan2018.pdf
- Safe Fieldwork Strategies for at risk Individuals: <https://www.nature.com/articles/s41559-020-01328-5>
- Advanced Geo Partnerships: https://serc.carleton.edu/advancegeo/resources/field_work.html