

Department of Geological Sciences

University of North Carolina at Chapel Hill



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INTRODUCTION

The Department of Geological Sciences occupies Elisha Mitchell Hall and houses a departmental library, laboratory facilities, classrooms, and offices. We are a relatively small department—12 faculty on our instructional staff, ~35 undergraduate majors and ~25 graduate students—where students have access to all faculty and all resources.

You, the graduate student, are a very important part of this department! We strive to be a department in which everyone—undergraduates, graduate students, research and administrative staff, and faculty—is an active participant and feels welcome.

THE GRADUATE SCHOOL HANDBOOK

Each graduate student is responsible for knowing pertinent Graduate School policies and procedures (the Graduate School Policies and Procedures document and the Graduate School Handbook are downloadable in PDF format from the Graduate School web site at <https://gradschool.unc.edu/handbook/>). This guidebook concerns policies within the Department of Geological Sciences and is intended only as a supplement to the Graduate School Handbook. In instances of discrepancy between this document, the Graduate School Handbook, and the Graduate School Record, the Graduate School Handbook takes precedence.

You should review your progress periodically and check the regulations and procedures to give yourself advance warning on deadlines. The Chair of your Graduate Committee (hereafter referred to as "Major Advisor"), the Director of Graduate Studies, or the Student Services Assistant will be glad to assist you. The official departmental records on graduate students are maintained by the Student Services Assistant (Mitchell Hall Room 115). Checklists designed to assist the student and the Student Services Assistant in monitoring the student's steps toward completion of his/her degree are at the end of document. You are required to update your M.S. or Ph.D. Checklist during the week preceding April 15 of each year. This update will provide a basis for determining, among other things, your qualification for Martin Fund summer support from the Department.

HOW TO SUCCEED IN GRADUATE SCHOOL

You will soon learn that graduate school is not like your undergraduate career. The main difference is that YOU are responsible for moving toward your degree; you are the one who sets the hoops that you must jump through. Although there are deadlines to be met and things to be checked off, no one will be telling you what to do.

- Know the policies and procedures in this document and follow them.
- Get settled on a graduate advisor and committee as soon as possible.
- Get your thesis proposal in before the deadline.
- Apply for as much outside funding (e.g., GSA) as you can.
- Gain NC residency as soon as possible.
- Meet with your advisor regularly (e.g., weekly), and your entire committee semi-regularly (e.g., once a semester or more).
- Budget your time so that you can accomplish your class work, thesis work, and teaching or research assistant duties in the time available.
- Keep track of upcoming deadlines for professional meetings so that you can use the abstract deadline as a goal.
- Realize that working on your thesis is something that YOU must budget time for and accomplish, even though there are no exams or assignments. Losing time because no one is cracking the whip is probably the single most common reason that students do not finish on time.

THE ADVISOR AND GRADUATE COMMITTEE

Within the framework of Graduate School and departmental regulations, the student's Graduate Committee sets specific course requirements. Graduate committees must be approved by the Director of Graduate Studies.

The student should choose a Major Advisor no later than the end of the first semester in residence. Master's students and the Major Advisor will select a permanent Thesis Graduate Committee no later than the end of the first semester in residence. Doctoral students and the Major Advisor will select a permanent Dissertation Graduate Committee no later than April 15th in the second semester in residence. Three members are required for the M.S. committee and five members for the Ph.D. committee. A majority of graduate committee members must be from the UNC Department of Geological Sciences, whether at the M.S. or Ph.D. level. For Ph.D. committees, inclusion of up to two members from outside the Department or outside the University is encouraged.

Committee members from outside the faculty of the Department of Geological Sciences or outside the Graduate Faculty of UNC-Chapel Hill must have a special appointment to the Graduate Faculty for the period of time he/she will serve on a student's committee.

As soon as the Major Advisor and Graduate Committee are chosen:

- M.S. students must file a **Composition of Master's Thesis Committee** form with the Student Services Assistant for their permanent departmental file. This form must be signed by the Director of Graduate Studies.
- Ph.D. students must file a **Report of Doctoral Committee Composition** form with the Student Services Assistant who will submit it to the Graduate School. This form must be signed by the Director of Graduate Studies.

IMPORTANT DEADLINES

It is the student's responsibility to keep track of important deadlines. The following is a list of some of the important deadlines to keep track of.

Annual Committee Meetings

All first-year graduate students:	by April 1 st
Second-Year M.S.	Thesis defense scheduled <u>or</u> meeting before April 15 th
PhD students post-written and oral exams:	by March 1 st

Oral Qualifying Exams for PhD Students

PhD students with MS degrees:	orals before October 31 st in the third semester
PhD students without MS degrees:	orals before March 31 st in the fourth semester

Graduation Deadlines

These dates change from semester to semester, so be sure to confirm at the Graduate School's webpage:

<https://gradschool.unc.edu/academics/resources/graddeadlines.html>

Fall (December)

Last day for Graduate Students to apply to graduate in ConnectCarolina :	early October
Due date for submission of electronic doctoral dissertations and master's theses:	mid/late November

Spring (May)

Last day for Graduate Students to apply to graduate in ConnectCarolina :	mid February
Due date for submission of electronic doctoral dissertations and master's theses:	mid April

Summer (August)

Due date for submission of electronic doctoral dissertations and master's theses:	mid July
Last day for Graduate Students to apply to graduate in ConnectCarolina :	late July

Application for Supplemental Martin Research Fellowship

November 15th
April 1st

COURSE REQUIREMENTS

At least 18 hours of course work must be in the field of the major. Additional course requirements will be determined by individual graduate committees.

MASTER'S

30 graduate-level hours (courses numbered 400 or higher), 24 of which must be taken in residence (see Residence Requirements below). Research credits (GEOL 900) count towards the residence credit requirements. This must include a minimum of 3 but no more than 6 hours of thesis (GEOL 993). Note that master's students should not take GEOL 993 until after all their coursework is completed and during which time they are actively working on their thesis. Upon approval by the Graduate School, up to 30% of the total hours required for the master's degree may be graduate-level courses transferred from another accredited institution or from UNC-Chapel Hill for courses taken before admission to a degree program in the Graduate School.

Summary: Take 9 credits each semester for the first 3 semesters (= 27 credits). Take 3 credits of GEOL 993 in last semester (= 30 credits total).

Note: 3 credits of GEOL 993 confers **full-time status**.

DOCTORAL

At least 48 graduate-level hours. If the student is coming in with a master's degree already, he/she will likely have more than 48 graduate-level hours because of the residence credit requirements by the Graduate School (see Residence Requirements below). This must include a minimum of 6 hours of dissertation (GEOL 994) and a minimum of 15 hours of coursework. Note that doctoral students should not take GEOL 994 until after all their coursework is completed and during which time they are actively working on their dissertation. Research credits (GEOL 900) count towards the residence credit requirements. It is in the best interest of all doctoral students to register for a minimum of 9 or more hours for the first 4 semesters in residence.

Bottom Line: Take 9 credits each semester for the first 4 semesters (= 36 credits). Take 3 credits of GEOL 994 during the last 4 semesters (= 48 credits total).

Note: 3 credits of GEOL 994 confers **full-time status**.

EXCEPTION: For those students supported by the US Military or other funding source that requires 9 credits for all semesters, 6 credits of GEOL 900 can be taken at the same time as GEOL 993 or 994. All other students whose tuition is paid by the Department of Geological Sciences must enroll in only 3 credits during the prescribed semesters when they should take either GEOL 993 or 994; otherwise, the student will be responsible for the additional cost of tuition.

INTERNATIONAL STUDENTS

International students must observe all enrollment conditions required by their student visa, including remaining enrolled full time throughout their course of study. It is advisable for international students to enroll for a minimum of 9 hours for the first 2 semesters (M.S.) or first 4 semesters (Ph.D.) in residence; the remaining hours may be completed over the remainder of the student's enrollment period.

There is no transfer of course credit for the M.S. degree for foreign students from a university where course content cannot be determined as being equal or superior to that from a university in the United States.

Courses taken by graduate students to remove undergraduate deficiencies must be completed by the end of the first year in residence. No graduate credit or residence credits will be given for any courses numbered less than 410.

ENGLISH PROFICIENCY

All new international students subject to TOEFL must take the University's English Proficiency Test before registering for their first semester of study. Students who do not achieve a passing score will be required to enroll in and attend a non-credit course entitled "English Speaking for Foreign Students: ENGL 601." All new international students who wish to teach a Geological Sciences laboratory must demonstrate adequate spoken English proficiency

prior to such an assignment and are encouraged to register for “GRAD 810: Communicating in the American Classroom” if necessary.

REGISTRATION

Until all of the required coursework has been completed, a graduate student should register for a minimum of 9 hours per semester. Maximum permissible registration is 16 credit hours per semester. After completing 2 years in residence at UNC-Chapel Hill and after passing all courses required for the M.S. by his/her Graduate Committee, an M.S. student may not take more than 2 courses without specific permission of the Director of Graduate Studies. This rule applies even if the M.S. student has received approval to proceed to the Ph.D.

Any student engaged in thesis or dissertation research and/or writing that involve the use of University faculty time or facilities must be registered in the semester in which he or she is using faculty time or facilities. If the student has already completed the required number of hours, this registration must be for 3 credit hours. Students are required to be registered whenever University resources (including faculty time) are being consumed to appropriately reflect work being done. A student must be registered during the semester(s) in which any written and/or oral exams examinations are taken. Students must be registered for a minimum of 3 credit hours of thesis (993) or dissertation (994) during the semester(s) or summer term in which the thesis/dissertation is defended or a thesis option is completed.

RESIDENCE REQUIREMENTS

The Graduate School requires a minimum number of semesters "in residence" at UNC-Chapel Hill. **Residence** requirements for degree status are independent of and unrelated to North Carolina residency determinations. These requirements are monitored by the Graduate School and must be fulfilled in order to receive a degree. See “Residence Credit” section of the Graduate School Handbook for further information and explanation.

A. Requirements for master’s degree: M.S. candidates are required to complete a minimum residence credit of 2 full semesters, either by full-time registration (9 or more credit hours), or by part-time registration over a larger number of semesters. Transfer credits are NOT included in the computation of residence credit.

B. Requirements for doctoral degree: Ph.D. candidates are required to complete a minimum of 4 semesters of residence credit. At least 2 of these must be earned in contiguous registration of no fewer than 6 credit hours on this campus. The residence credit requirement requires UNC-Chapel Hill registration, i.e., transfer credits are NOT included in the computation of residence credit.

PERMISSION TO PROCEED FROM MASTER’S TO PH.D. DEGREE PROGRAM

A student completing a master’s degree at UNC-Chapel Hill may request to proceed to the doctoral program. Approval by the master's thesis committee and the assembled faculty of the department is required. Specific steps to be followed are:

- By January 31, the student must submit the **Master's Student Request to Proceed beyond the M.S. Program** form to the Chair of the department. Each of the following is required:
 - Recommendation by the master's thesis committee, as well as assurance from Major Advisor that the thesis will be completed by the beginning of the following semester.
 - Approval by the assembled faculty of the department. For approval, the student must have the support of a potential advisor, plus 4 faculty members who agree to serve on a dissertation committee. The student must have discussed a research project with a potential advisor. All pertinent information is to be on file for review.

Approval to proceed beyond the M.S. does not carry an automatic offer of financial support. All decisions on financial support are deferred to the spring faculty meeting when offers of financial support for incoming students are discussed. The student and his/her potential advisor should endeavor to obtain support from external funds.

PERMISSION TO BYPASS MASTER'S DEGREE AFTER ONE SEMESTER IN RESIDENCE

This may be recommended by the student's master's committee and approved by a majority vote of the Geological Sciences faculty after one semester in residence.

READMISSION FOLLOWING WITHDRAWAL

Readmission requires submission of an application to the Graduate School; deadlines for receipt of application are set by the Graduate School (see website). (Note: a form for application for readmission may be obtained from the Graduate School, and no application fee is required.) Applications for readmission are referred to the Department faculty for approval by majority vote. Particular attention will be given to reasons for the withdrawal, his/her status within the department at the time of withdrawal, and progress toward completion of the degree since withdrawal. A letter from the student's Major Advisor addressing these matters is required. See the Graduate School Handbook for more details regarding official withdrawal and formal leaves of absence.

GRADES

Permanent grades for graduate students in graduate courses are: **H** (clear excellence), **P** (satisfactory), **L** (low pass), and **F** (fail). While thesis and dissertation research (GEOL 993, 994) is in progress, the grade of **S** (satisfactory progress) is given. "S" grades are converted to letter grades upon completion of the research. These grades should not be interpreted as equivalent to the more traditional **A, B, C, D, F** system.

ACADEMIC ELIGIBILITY

A graduate student becomes academically ineligible to continue in the Graduate School if he or she receives any grade of **F** or receives 9 or more hours of **L**. Students made ineligible under these conditions may not receive Departmental financial support. Students may petition the Graduate School for reinstatement with the prior approval of the Department.

A graduate student will not make satisfactory progress if he or she fails to submit a thesis/dissertation research proposal approved by their thesis or dissertation committee by April 15th or the following Monday.

A graduate student must make at least a **P** or **B-** on all UNC-Chapel Hill undergraduate courses (numbers below 500) required for his/her degree program.

TIME AND COURSE LIMITATIONS

A master's student has 5 calendar years from the date of first registration in the master's program to complete the master's degree. (This includes registration in the Graduate School through the UNC Continuing Studies program.) A doctoral student has 8 calendar years from the date of first registration in the doctoral program to complete the doctoral degree. A student admitted to a master's program and later given formal permission to proceed to the doctoral degree has 8 calendar years from the date of receipt of the master's degree to complete the doctoral degree. Reapplication is required to continue pursuit of the degree if the designated time expires. The student shall not turn in a thesis or dissertation to the Graduate School without the written approval of the major advisor.

NOTE: Information regarding formal leave of absence, extension of time limit, etc., can be found in the Graduate School Handbook.

TUITION REMISSION

Master's students are eligible for tuition remission and/or in-state tuition awards for 4 semesters. Doctoral students (or students in master's/doctoral sequence programs) are eligible for tuition remission and/or in-state tuition awards for 10 semesters. Semesters in which the student does not receive a tuition award (remission and/or in-state tuition) from the Graduate School do not count toward the 4- or 10-semester limit.

SATISFACTORY PROGRESS TOWARD DEGREE COMPLETION

Generally, the master's degree program should be completed in 4 semesters (or 2 calendar years). The Ph.D. degree program should be completed in 10 semesters (or 5 calendar years) starting without a master's degree (i.e., straight-through Ph.D.), or in 8 semesters (4 calendar years) beyond the M.S. Therefore, a key to successful completion of your degree is designing a research project of appropriate scope that can be completed within these timelines. To monitor each student's progress, a master's or Ph.D. checklist must be completed each year by the student in consultation with his/her Major Advisor and submitted to the Student Services Assistant no later than April 15th or the following Monday (assuming an August start date).

Students are required to meet with their committee at least once a year (see schedule below) for the purpose of assessing progress and likelihood of graduating in a timely manner. At the conclusion of the annual committee meeting, the committee must sign the Satisfactory Progress Form indicating whether or not the student is making satisfactory progress toward his or her degree. This decision will bear on eligibility of summer support.

Annual Committee Meeting Schedule

All first-year graduate students:	by April 1 st
Second-Year M.S.	Thesis defense scheduled <u>or</u> meeting before April 15 th
PhD students post-oral qualifying exams:	by March 1 st

Lack of satisfactory progress toward a graduate degree is indicated by any of the following:

1. Failure to submit a master's or Ph.D. checklist by the April 15th deadline.
2. Failure to submit an approved Satisfactory Progress Form signed by the student's committee by April 15th.
3. For master's students, absence of a thesis research proposal approved by their committee by April 15th of the second semester in residence.
4. For PhD students, absence of a dissertation research proposal approved by their committee by December 1st of the third semester in residence for student's entering the doctoral program with a master's degree or by April 15th of the fourth semester in residence for student's entering the doctoral program without a master's degree.
5. A grade of **L** or **F** for a graduate class. Note that grades of **IN** automatically become an **F** after one year if necessary work is not satisfactorily completed.
6. Completion of fewer than 15 credit hours (total) of graduate courses in the first 2 semesters.
7. Grade of **C+** or less in any required undergraduate course (numbered below 500) while enrolled in the graduate program; this applies to courses taken at other UNC campuses and at other colleges and universities.
8. Failure of any written or oral examination.
9. For Ph.D. students entering on the basis of having a prior master's degree, failure to complete his/her master's degree at the prior institution within one semester of matriculation at UNC-Chapel Hill.
10. Failure to make satisfactory progress while receiving summer support.

Determination of unsatisfactory progress will be made in late April by the Department Chair following consultation with the Director of Graduate Studies and the members of the student's Graduate Committee. Any student not making satisfactory progress will be on academic probation, and further departmental support will be at the discretion of the Executive Committee.

SUMMER SUPPORT

Students who are making satisfactory progress are eligible for a summer stipend for up to 10 weeks of salary. To obtain summer support, by April 15th a student must fulfill the satisfactory progress requirements outlined above. The Director of Graduate studies will evaluate the status of satisfactory progress after the April 15th deadline in consultation with the Department Chair and the student's thesis/dissertation advisor. The Department reserves the right to withhold payment if satisfactory progress is not made. Students who do not make satisfactory progress while

receiving summer support will be ineligible for summer support the following year. Students working on their thesis less than 10 weeks during the summer will receive prorated salary. Students should meet with their advisor by April 15th to discuss expectations for satisfactory progress during the summer stipend support period. Recipients of summer stipend support are required to provide a written report on their use of the summer funding to the Director of Graduate Studies by September 15th. Failure to do so may result in ineligibility for future summer support.

EXAMINATIONS

MASTER'S DEGREE

Master's students must pass a final oral defense of their thesis, which is part of their oral examination.

The Student Services Assistant will maintain records regarding pass/fail, as well as any additional coursework that must be satisfactorily completed. The Chair will submit the **Master's Comprehensive Exam** form to the Graduate School.

Thesis Research Proposal

By April 15th of the second semester, the student is to submit a final thesis research proposal (~8-10 double-spaced pages in length including figures; page length not including reference list), approved by their thesis committee, to the Student Services Assistant.

Final Oral Defense

The final oral defense is to be scheduled no earlier than 10 days after all members of the committee have been given a final draft of the thesis for review. This final draft must be judged by the thesis advisor to require no substantial revision. At the time of the final oral defense the committee may require minor changes. A specific list of revisions will be given to the student within a day of the oral defense. The student must complete these changes to the satisfaction of the major advisor. The major advisor shall not add additional changes after the initial list is given to the student. Upon passing the defense, the Report of Final Oral Examination is signed by the committee members and submitted to the Student Services Assistant.

In general, the final oral defense scheduled during the last two weeks of the semester, during the two weeks before the next term starts, or during the summer is strongly discouraged because it puts an undue burden on the committee. It is the student's responsibility to defend on time. For example, if a student plans to graduate in May, the final version of the thesis/dissertation must be submitted to the Graduate School by mid April for approval and acceptance. Therefore, the student must allow enough time prior to that deadline for edits and formatting per Graduate School requirements. More information about graduation deadlines can be found here: <https://gradschool.unc.edu/academics/resources/graddeadlines.html>.

Note: The student must be enrolled and paying tuition *during the semester in which the thesis is defended*. Submission of the final thesis to the Graduate School *does not* require the student to be enrolled or paying tuition.

DOCTORAL DEGREE

Ph.D. students must pass 1) an oral defense of a research proposal and 2) a final oral defense of the dissertation. The research proposal (written) and oral exam (oral) constitute the comprehensive examinations required by the Graduate School.

Dissertation Research Proposal

Students shall submit a dissertation research proposal (10 single-spaced pages in length including figures; page length not including reference list) to their committee at least 2 weeks before their scheduled oral qualifying exam. We expect that students will have peers inside and outside of their discipline, as well as the primary dissertation advisor, review the content and clarity of the proposal. The proposal will be defended at the start of the oral qualifying exam, and the student's presentation should be ~20-25 minutes long. The proposal may or may not be on

the same topic of the final doctoral research proposal. After approval by the dissertation committee, the student will submit the research proposal to the Student Services Assistant.

Doctoral Oral Qualifying Examination

- The doctoral oral qualifying exam will follow the schedule below:
PhD students with MS degrees: orals before October 31st in the third semester

PhD students without MS degrees: orals before March 31st in the fourth semester
- It is strongly recommended that the student meet with their committee members the semester prior to the examination to ask what topics each committee member will expect them to know for the exam.
- In certain circumstances, the student may petition the Department Chair and Director of Graduate Studies to defer taking the oral qualifying exam (e.g., in cases when the student's background is different than the focus of their dissertation) with the permission of the student's primary advisor (i.e., the chair of their dissertation committee). The petition must: (1) be submitted in writing and dated; (2) justify the request for deferral; and (3) be signed by the student and their primary advisor with a copy to the Student Services Manager. It should also include signature lines for the Department Chair and Director of Graduate Studies to indicate their approval or denial of the request. This petition can be submitted only once for one deferral.
- The examination will test the breadth and depth of knowledge relevant to your field and explore the content of the dissertation research proposal. Questions will consist of any area of science deemed appropriate by the committee. The committee will question the student about topics deemed pertinent to assessing his/her academic background and readiness to proceed with doctoral research. The examination should assess the student's ability to analyze and resolve scientific problems with a substantiated approach, demonstrating satisfactory command of the field of interest. The examination will include questions regarding the merits and scientific soundness of the dissertation research proposal.
- The exam should determine the existence of weaknesses in the candidate's preparation as well as fitness to continue work toward the doctorate.
- The doctoral committee will discuss the results of the examination and decide whether the student has passed or failed by a majority vote of the committee. This decision will be forwarded in writing to the Student Services Assistant for inclusion in the student's permanent file.

A student failing the oral examination must wait at least 3 months before retaking it. No student may take this examination a third time without approval of a written petition to the Administrative Board of the Graduate School.

Advancement to Candidacy

Advancement to candidacy as defined by the Graduate School Handbook is achieved after the student has passed the doctoral proposal defense and oral qualifying examination, has submitted an acceptable dissertation prospectus, and has completed all courses required by the major program. At that stage, the student is designated ABD (all but dissertation). The Director of Graduate Studies will need to certify on the Application for Admission to Candidacy and the Program Certification of Degree Requirements forms (see Student Services Manager) that all such requirements have been met. Once a student has advanced to candidacy, he/she becomes eligible for a \$2000/year additional Martin stipend for the remainder of their nominal tenure (4 years total for post-M.S., 5 years for those without an M.S.). In other words, all of these requirements towards candidacy will be completed no sooner than the start of the student's third year. It is the student's responsibility to notify the Director of Graduate Studies of their advancement to candidacy, so that the necessary changes in their payroll can be made. Increase will be effective at the start of the following semester.

Final Oral Defense

These requirements are the same as for the M.S. degree.

In general, the final oral defense scheduled during the last two weeks of the semester, during the two weeks before the next term starts, or during the summer is strongly discouraged because it puts an undue burden on the committee. It is the student's responsibility to defend on time. For example, if a student plans to graduate in May, the final version of the thesis/dissertation must be submitted to the Graduate School by mid April for approval and acceptance. Therefore, the student must allow enough time prior to that deadline for edits and formatting per Graduate School requirements. More information about graduation deadlines can be found here: <https://gradschool.unc.edu/academics/resources/graddeadlines.html>.

Note: The student must be enrolled and paying tuition *during the semester in which the dissertation is defended*. Submission of the final thesis to the Graduate School *does not* require the student to be enrolled or paying tuition.

FINANCIAL SUPPORT

TEACHING AND RESEARCH ASSISTANTSHIPS

It is the policy of the Department of Geological Sciences to admit students with an assistantship whenever possible. Currently, only teaching assistantships are supported by departmental funds; research assistantships are supported by grant funds. Typically, the department supports M.S. candidates for four semesters and Ph.D. candidates coming to UNC with a master's degree for eight semesters. Exceptions to the typical limits of supports are made on a case-by-case basis depending on the availability of funds, departmental needs, and the student's timely progress toward the completion of the degree. Students approved to proceed directly from the bachelor's degree to the Ph.D. at Chapel Hill may receive up to ten semesters of support. A professor may use research grants for support beyond the typical departmental limits, but students will typically not be given departmental support beyond the statutory limit regardless of whether they have been supported by a research assistantship.

TEACHING FELLOWSHIP

The Department annually awards a one-year teaching fellowship, **The Walter H. Wheeler Teaching Fellowship**. Established in 1994 primarily through the generosity of the late Walter "Walt" Wheeler, a member of our faculty for over 35 years, this fund is supported by his family and former friends, colleagues, and students in honor of his many contributions to the department.

Graduate students in the Department of Geological Sciences are eligible to apply or be nominated for this fellowship if, by the start of the Fellowship appointment, they have taught at least three UNC-Chapel Hill introductory Geological Sciences laboratory sections, or have taught an equivalent in advanced courses. This fellowship carries additional responsibilities in support of undergraduate and graduate education in Geological Sciences for which a supplemental stipend is awarded.

STUDENT SUPPORT FROM ENDOWMENT

The Department of Geological Sciences has two endowment funds, the interest from which may be used for Graduate Fellowships. The Preston Jones and Mary Elizabeth Frances Dean Martin Trust Fund (Martin Fund) is the larger of the two; most of our students receive at least some support from the Martin Fund. The MacCarthy Memorial Fund is used primarily for support of geophysics.

Top-up fellowships and an annual \$1000 research account from the Martin Fund normally are offered at the time of admission to the graduate program and continue throughout the period of departmental support (two years for the M.S., four years for Ph.D. candidates coming to UNC with a master's degree, and five years for students who proceed from the bachelor's degree to the Ph.D. program). Students who receive an offer of a top-up at the time of admission must maintain satisfactory progress toward their degree to continue to receive the fellowship. There are no restrictions on how the top-up money may be spent.

Additional support may be available to cover research expenses as supplemental to the annual \$1000 research account and/or travel to a scientific meeting to present research results. Proposal deadlines requesting supplemental research funding (\$5000 maximum) from the Martin Fund are November 15th or the following Monday and April 1st or the following Monday. There is no deadline for requesting Martin Funds to attend professional meetings; however, you must submit your abstract with your proposal. Students must apply to receive supplemental funding and are eligible only after submitting at least one proposal for external graduate student research funding from organizations such as Geological Society of America (<http://www.geosociety.org>), Sigma Xi (<http://sigmaxi.org>), GSA Southeastern Section (<http://geology.ecu.edu/geology/seggsa/seggsa.html>), etc. An award from such external sources is not a requirement for eligibility towards additional support from the Martin Fund, however. Recipients of supplemental funding for research or travel are required to provide a written report to the Student Services Assistant on their use of the funding within 2 months after receiving such support. Keep in mind that all student support from Endowment is contingent upon making satisfactory progress toward the degree, and this includes timely submission of a M.S. or Ph.D. research proposal approved by the student's committee.

EXTENDED GRADUATE STUDENT TUITION POLICY

M.S. students are typically promised TA and/or RA support for 2 full academic years. Because we are fortunate to have access to the Martin fund, these terms of support also include summer fellowships during this two-year time period. Students may also be offered summer fellowship support prior to beginning their first academic year. This support would not count towards the two-year term. Ph.D. students are offered longer terms of support (4 or 5 years) depending upon whether they have previously obtained an M.S. degree.

It is fairly common that graduate students will need to stay beyond their term of support to complete their degree. These students may petition the department for payment of in-state tuition and health insurance costs (only available to students being paid ~\$2667) on a term-by-term basis, as follows:

- Term 1. For students making satisfactory progress, in-state tuition and health insurance support will normally be granted for the first term past when the student is out of support (e.g. the 3rd fall term for an M.S. student). Students are responsible for meeting with their advisor and making this petition to the Chair and the Director of Graduate Studies.
- Term 2. Petitions for in-state tuition and health insurance support for the second extra term will be scrutinized by the full faculty before granting support. At this stage, the student is generally no longer considered to be making satisfactory progress toward their degree. Support of the petition is likely only if the student can demonstrate that the degree will be completed by the end of the term.
- Term 3+. Petitions for support beyond the spring term will be denied except in unusual cases, at the discretion of the full faculty.

Students who forgo summer support to undertake industry internships are not entitled to summer fellowship support beyond the end of their promised term. It is the responsibility of the student to balance such internships against the need to make satisfactory progress toward their degree.

Note that: (1) Support beyond the promised term does not include TA duties or stipend. Occasionally there may be extra TA positions available for students who are out of support. These positions will be made available only to students deemed to be making satisfactory progress towards their degree. (2) Students will be responsible for paying the difference between in-state and out-of-state tuition; thus, it is important that students obtain state residency if they anticipate staying beyond the standard time.

GRADUATE STUDENT AWARDS

Upon their retirement in 1986, students and friends of Professor Roy L. Ingram and the late Dr. Walter H. Wheeler established the Wheeler Teaching and Ingram Research awards in honor of their many contributions to the department and to Geological Sciences. These awards are announced at the end of spring semester or the beginning of the fall semester. Each award consists of a cash prize, and the names of the recipients are placed on plaques permanently displayed in the Geological Sciences Library.

ROY L. INGRAM RESEARCH AWARD

This award, a cash prize of \$500, is named in honor of the late Roy L. Ingram, former Professor and Chair in the department. It is given to a graduate student for significant research contributions and publications. On March 31st (or the following Monday if on a weekend) of each year, students who wish to be considered for this award will submit a list of their publications for the preceding year (April 1 - March 31). This list should include:

1. Published papers
2. Papers submitted or in review
3. Abstracts, indicating at which meeting the work was presented, whether the student was the presenter, and whether the presentation was oral or poster

The Ingram Research Award is most likely to go to students who have presented several papers, including at least one at a national or international meeting, or those who are senior or sole authors of research papers. However, all students with research publications will be considered. The recipient of the Ingram Research Award will be selected by the Chair in consultation with appropriate faculty members.

WALTER H. WHEELER TEACHING AWARD

This award is to a graduate student recognized for outstanding teaching of introductory Geological Sciences laboratories. Candidates for the award may be suggested by students and faculty or by data collected through formal course evaluations. A Teaching Assistant typically will have taught at least three introductory labs to be considered for the Wheeler Teaching Award. In addition to the respect of their peers and supervisors, recipients of the award should possess these attributes: enthusiasm for quality teaching, ability to create interest in Geological Sciences, good classroom teaching abilities, and an interest in students. The recipient of the Wheeler Teaching Award will be selected by the Chair in consultation with appropriate faculty members.

TALKS & POSTER SESSIONS

All graduate students are required to present their research to a geologic audience at least once prior to the granting of any degree. This presentation can be at a regional or national convention, or in the department (Anadarko symposium, Colloquium or "brown-bag" series).

THESES AND DISSERTATIONS

If agreed on by the student and major advisor, a student may write a preliminary dissertation proposal, which will then be presented to the Graduate Committee for discussion, modification, and approval. By April 15th of their first year in residence assuming an August start date, the student will submit to the Student Services Assistant a research proposal approved by his/her Graduate Committee. Students who have been granted a deferral will apply at a different date.

Students should keep all committee members informed of their research progress through committee meetings (at least one per semester) and/or written progress reports. Before beginning to write the thesis or dissertation, each student consult to the Graduate School's "Guide for Theses and Dissertations".

RESOURCES

EQUIPMENT

Research equipment and facilities include:

- Thermal ionization mass spectrometer facility for isotopic analysis. Lab includes a VG Sector -54 mass spectrometer and a Phoenix-X62 mass spectrometer, with Class 100 clean lab, full mineral separation facilities, and microampler
- Quadrupole ICP mass spectrometer and supporting laboratories
- Scanning electron microscope laboratory with x-ray, backscatter, and cathodoluminescence analysis capability

- Preparation labs for stable isotope analysis; MerchanteK microsampling device; Olympus binocular microscope with 12.5 megapixel digital camera and Discover Details Five image analysis software
- X-ray fluorescence spectrometer
- X-ray diffractometer
- Deltech one-atmosphere gas-mixing furnaces
- Fluid-inclusion heating/freezing stage
- Counting laboratory (alpha-, beta-, and gamma-emitting radionuclides)
- Gas-, liquid-, and ion-chromatography equipment
- CNS analyzer
- Benzene synthesis ¹⁴C laboratory
- Percent carbonate and organic C facility
- Gas chromatograph-combustion-isotope ratio mass spectrometer (in Marine Sciences)

The department also has a large variety of computing resources which includes Macintosh and Windows-based computers, UNIX workstations, a GIS/mapping laboratory, and computer graphics and imaging facilities. A Silicon Graphics Origin 2000 provides centralized scientific computing on campus, and a Cray supercomputer cluster is available at the North Carolina Supercomputing Center. The CHANL lab in chemistry also includes a variety of microanalytical tools, available for student use. The Duke-UNC Oceanographic Consortium operate the R/Y Cape Hatteras, a part of the UNOLS oceanographic research fleet, which is docked at the Duke Marine Lab in Beaufort, NC.

THE STAFF

The following staff in the Department is available to provide a wide variety of assistance and information to students:

- Jennifer Parker, Administrative Manager. (919) 962-2117
- Mike Kingery, Facilities Maintenance Technician, Rm 014, (919) 962-0828
- Violet Anderson, Student Services (admissions, registration, student records, etc.) (919) 962-1270

MISCELLANEOUS INFORMATION FOR GRADUATE STUDENTS

EMAIL

- Log on to <http://help.unc.edu>, under *Quick Links*, select *Create an ATN UserID*, and follow prompts.

PAYDAYS

- Bi-weekly pay schedule; first payday in September, last in April.

DIRECT DEPOSIT OF PAY

- University employees are required to have their pay directly deposited into their bank account.

CHANGE PERSONAL INFORMATION

- Log on <http://www.unc.edu/student/>, select Student Central and follow prompts to change address, phone number, etc. This should be done as soon as local information is available.

OFFICES/COMPUTERS

- Offices are assigned on space-available basis at the time of matriculation.

- All computers in the Department are maintained by an OASIS Technician who can assist with computers in computer labs and throughout the building.

KEYS

- Building, teaching labs and student office keys issued by Student Services Assistant (requires signed security agreement).
- A refundable deposit is required when checking out keys.

LABORATORY SAFETY WORKSHOP

- Required of all university employees, including graduate students.
- Covers physical, chemical, radiological and biological hazards and topics mandated by NC OSHA and the University.
- For dates/times of training go to <http://ehs.unc.edu/>, and then click on Laboratory Safety or Workplace Safety to access training schedules.

USE OF DEPARTMENTAL EQUIPMENT/FACILITIES

Students should consult the person in charge prior to using any of the research and teaching equipment or facilities. Most research equipment requires the users to pay fees, e.g., mass spectrometer, SEM. Users should report problems to the person-in-charge, including shortages of supplies.

VEHICLE USE & PARKING

The department maintains a vehicle for teaching purposes that may be driven only by University employees (including TAs and RAs on payroll) on approved University business. All drivers must provide the Student Services Assistant with a photocopy of their valid driver's license.

The driver of the vehicle is responsible for reserving the vehicle and for returning it clean and refueled (full). Cleaning includes removal of all trash from the vehicle and washing if it is dirty, muddy, etc.; gasoline is to be purchased at the Physical Plant gas station whenever possible. If a vehicle is returned after regular hours, these responsibilities must be fulfilled as early as possible on the following workday. The person who reserves the vehicle must report to the University Manager any damage to or malfunction of the vehicle while in their care. Departmental vehicles are to be parked in appropriate spaces (space changes regularly owing to construction and University events, so be aware of current policies).

Failure to follow these policies will result in revocation of privileges.

Last updated: 9/15/2021 by ds

MS Degree

Master's Student Checklist: Fall Start Date

To be updated by student by April 15th each year

Timely completion of the following requirements constitutes satisfactory progress.

Student: _____

Date: _____

- 1. Select Major Advisor and Dissertation Committee no later than the end of the first semester in residence. Submit Composition of Thesis Committee form to the Student Services Assistant to be filed with the Graduate School.

- 2. Submit to the Student Services Assistant a final approved thesis proposal signed by your thesis committee by April 15th of your second semester in residence assuming an August start date. Meet with your thesis committee for approval of the proposal and/or any modification of course program.
- 3. Meet with thesis committee at least once a year following prescribed dates in the Department's Graduate Handbook and submit the Satisfactory Progress Form signed by your committee each year before April 15th to the Student Services Assistant.
- 4. Successfully complete graduate coursework.
- 5. Complete three semesters of required residence credit.
- 6. Give research presentation. (Talk at Department's student research symposium, colloquium, GSA, or other regional or national meeting). File notice of place and date with Student Services Assistant.
- 7. Apply for Graduation during last semester of registration.
- 8. Defend thesis during last semester of registration. Final draft of thesis must be submitted to your committee at least 2 weeks before your defense.
- 9. Submit thesis online (<http://gradschool.unc.edu/etdguide/>). Provide a copy of the title page and abstract, plus number of pages, references, plates and the number, type, and scale of foldout maps, to the Student Services Assistant.

Note: *Submit copy of thesis to North Carolina Geological Survey if funding was received from them.*
- 10. If appropriate, nominate your faculty advisor to the graduate school for dissertation mentoring award (see Student Services Assistant for form).

Last updated: 9/15/2021 by ds

Ph.D. Degree

Doctoral Student Checklist: Fall Start Date

To be updated by student by April 15th each year

Timely completion of the following requirements constitutes satisfactory progress.

Student: _____

Date: _____

1. Select Major Advisor no later than the end of the first semester in residence and Dissertation Committee no later than the second semester in residence. Submit Report of Doctoral Committee Composition form to the Student Services Assistant to be filed with the Graduate School.

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2. Defend Preliminary Research Proposal (“Doctoral Oral Qualifying Examination”) following prescribed dates in the Department’s Graduate Handbook.
3. Submit to the Student Services Assistant a final approved dissertation proposal signed by your dissertation committee following guidelines in the Department’s Graduate Handbook. Meet with your thesis committee for approval of the proposal and/or any modification of course program.
4. Meet with dissertation committee at least once a year following prescribed dates in the Department’s Graduate Handbook and submit the Satisfactory Progress Form signed by your committee each year before April 15th to the Student Services Assistant.
5. Successfully complete graduate coursework.
6. Complete four semesters of required residence credit.
7. Give research presentation. (Talk at Department’s student research symposium, colloquium, GSA, or other regional or national meeting). File notice of place and date with Student Services Assistant.
8. Apply for Graduation during last semester of registration.
9. Defend dissertation during last semester of registration. Final draft of thesis must be submitted to your committee at least 2 weeks before your defense.
10. Submit dissertation online (<http://gradschool.unc.edu/etdguide/>). Provide a copy of the title page and abstract, plus number of pages, references, plates and the number, type, and scale of foldout maps, to the Student Services Assistant.

Note: Submit copy of dissertation to North Carolina Geological Survey if funding was received from them.

11. If appropriate, nominate your faculty advisor to the graduate school for dissertation mentoring award (see Student Services Assistant for form).

Last updated: 9/15/2021 by ds

**DEPARTMENT OF GEOLOGICAL SCIENCES
SATISFACTORY PROGRESS REPORT
MASTER'S DEGREE**

To be signed and approved by student's thesis committee at the time of student's committee meeting scheduled prior to April 15th of each year.

Student: _____

Print or type Committee Members' names below:

Date: _____

To be filled out by committee:

Indicate whether the student has made satisfactory or unsatisfactory progress towards his/her degree.

Satisfactory progress

Unsatisfactory progress

Comments:

Advisor

Committee Member

Committee Member

Date: _____

To be filled out by committee:

Indicate whether the student has made satisfactory or unsatisfactory progress towards his/her degree.

Satisfactory progress

Unsatisfactory progress

Comments:

Advisor

Committee Member

Committee Member

**DEPARTMENT OF GEOLOGICAL SCIENCES
SATISFACTORY PROGRESS REPORT
PhD DEGREE**

To be signed and approved by student's dissertation committee at the time of student's committee meeting scheduled prior to April 15th of each year.

Student: _____

Print or type Committee Members' names below:

Date: _____

To be filled out by committee:

Indicate whether the student has made satisfactory or unsatisfactory progress towards his/her degree.

Satisfactory progress

Unsatisfactory progress

Comments:

Advisor

Committee Member

Committee Member

Committee Member

Committee Member

Date: _____

To be filled out by committee:

Indicate whether the student has made satisfactory or unsatisfactory progress towards his/her degree.

Satisfactory progress

Unsatisfactory progress

Comments:

Advisor

Committee Member

Committee Member

Committee Member

Committee Member

Date: _____

To be filled out by committee:

Indicate whether the student has made satisfactory or unsatisfactory progress towards his/her degree.

Satisfactory progress

Unsatisfactory progress

Comments:

Advisor

Committee Member

Committee Member

Committee Member

Committee Member

Date: _____

To be filled out by committee:

Indicate whether the student has made satisfactory or unsatisfactory progress towards his/her degree.

Satisfactory progress

Unsatisfactory progress

Comments:

Advisor

Committee Member

Committee Member

Committee Member

Committee Member