MASTER OF SCIENCE IN GEOPHYSICS

The Master of Science (MS) curriculum is designed to develop new understanding through research and creativity. Skills obtained by graduates from this degree program include knowing how to:

- place geophysical information into a context that is meaningful to land and environment stewardship and civil infrastructure stakeholders;
- assess risk and vulnerability from geophysical hazards and make realistic evaluations about quality and quantity of Earth resources;
- determine whether geophysical data could be indicative of a potential subsurface target of interest;
- recommend the suitability of a given type of geophysical data to address a given geoscience problem;
- suggest generalizations about fundamental Earth structures and processes from incomplete and possibly inaccurate geophysical information;
- combine geological and geophysical data to build an integrative model whose value exceeds the sum of its components;
- prepare an oral presentation, and respond to questions, in which geophysical information is described, interpreted, and from which conclusions are drawn;
- prepare a well-written and well-structured document that contains sound reasoning and defensible conclusions based on geophysical principles;
- access and learn to use commercial software packages that process, display and manipulate geophysical data;
- access and learn to use basic geophysical field and laboratory equipment;
- execute a test of a geophysical research hypothesis using basic principles, data, and techniques; and
- understand the basic principles of scientific uncertainty as it relates to geophysical hypothesis testing.

Steps to Fulfill a Masters Program (http://catalog.tamu.edu/graduate/academic-expectations-general-degree-requirements/#stepstofulfillagraduateprogramtext)

Program Requirements

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- Student's Advisory Committee (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/arts-and-sciences/geology-geophysics/geology-ms/#students-advisory-committee)
- Degree Plan (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/arts-and-sciences/geology-geophysics/geology-ms/#degree-plan)
- Credit Requirements (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/arts-and-sciences/geology-geophysics/geology-ms/#credit-requirement)
- Transfer of Credit (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/arts-and-sciences/geology-geophysics/geology-ms/#transfer-credit)
- Limitations on the Use of Transfer, Extension and Certain Other Courses (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/arts-and-sciences/geology-geophysics/geology-ms/#limitations)
- Thesis (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/arts-and-sciences/geology-geophysics/geology-ms/#thesis)
  - Thesis Proposal (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/arts-and-sciences/geology-geophysics/geology-ms/#proposal)
  - Final Examination/Thesis Defense (http://catalog.tamu.edu/graduate/colleges-schools-interdisciplinary/arts-and-sciences/geology-geophysics/geology-ms/#final-examination)

Student's Advisory Committee

After receiving admission to graduate studies and enrolling for coursework, the student will consult with the head of his or her major or administrative department (or intercollegiate faculty, if applicable) concerning appointment of the chair of his or her advisory committee. The student's advisory committee for the MS degree will consist of no fewer than three members of the graduate faculty, representative of the student's fields of study and research. The chair or the co-chair of the advisory committee must be from the student's major department (or intercollegiate faculty, if applicable), and at least one or more of the members must have an appointment to a department other than the student's major department. The outside member for students in an interdisciplinary program must have an appointment to a department different from the chair of the student's committee.

The chair, in consultation with the student, will select the remainder of the advisory committee. The student will interview each prospective committee member to determine whether he or she is willing to serve. Only graduate faculty members located on Texas A&M University campuses may serve as chair of a student's advisory committee. Other graduate faculty members located off campus may serve as a member or co-chair (but not chair) with a member as the chair. The chair of the committee, who usually has immediate supervision of the student's research and thesis, has the responsibility for calling required meetings of the committee and for calling meetings at any other time considered desirable.

If the chair of a student's advisory committee voluntarily leaves the University and the student is near completion of the degree and wants the chair to continue to serve in this role, the student is responsible for securing a current member of the University Graduate Faculty, from the student's academic program and located near the Texas A&M University campus site, to serve as the co-chair of the committee. The Department Head or Chair of Intercollegiate faculty may request in writing to the Associate Provost and Dean of the Graduate and Professional School that a faculty member who is on an approved leave of absence or has voluntarily separated from the university, be allowed to continue to serve in the role of chair of a student's advisory committee without a co-chair for us to one year. The students should be near completion of the degree. Extensions beyond the one year period can be granted with additional approval of the Dean.

If the chair of the student's advisory committee is unavailable for an extended time in any academic period during which the student is involved in activities relating to an internship, thesis or professional paper, and is registered for courses such as 684, 691, 692 or 693, the student may request, in writing, that the department head appoint an alternate advisory committee chair during the interim period.

The duties of the committee include responsibility for the proposed degree plan, the research proposal, the thesis and the final examination. In addition, the committee as a group and as individual members are responsible for advising the student on academic matters, and, in the case of academic deficiency, initiating recommendations to the Graduate and Professional School.

The committee members' approval on the degree plan indicate their willingness to accept the responsibility for guiding and directing the entire academic program of the student and for initiating all academic actions concerning the student. Although individual committee members may be replaced by petition for valid reasons, a committee cannot resign *en masse.*

Degree Plan

The student's advisory committee, in consultation with the student, will develop the proposed degree plan. The degree plan must be completed and filed with the Graduate and Professional School prior to the deadline imposed by the student's college or interdisciplinary degree program, if applicable, and no later than 90 days prior to the date of the final oral examination or thesis defense.

A student should submit the degree plan using the online Document Processing Submission System (http://ogsdpss.tamu.edu).

A student submitting a proposed degree plan for a Master of Science degree should designate on the official degree plan the appropriate program option.

Additional coursework may be added to the approved degree plan by petition if it is deemed necessary by the advisory committee to correct deficiencies in the student's academic preparation. No changes can be made to the degree plan once the student's Request for Final Examination or Request for Final Examination Exemption is approved by the Graduate and Professional School.

The Master of Science in Geophysics requires 2 credits of GEOL/GEOP 681, and 21-24 hours of graded course work, and at least 8 hours of 691 research. No more than 6 hours of 300-400 level undergraduate credit can be applied to the Degree Plan.

Credit Requirement

A minimum of 32 semester credit hours of approved courses and research is required for the Master of Science degree.

Ordinarily the student will devote the major portion of his or her time to work in one or two closely related fields. Other work will be in supporting fields of interest.

Transfer of Credit

A student who has earned 12 hours of graduate credit in residence at Texas A&M University may be authorized to transfer courses in excess of the limits prescribed below upon the advice of the advisory committee and with the approval of the Graduate and Professional School. Courses taken in residence at an accredited U.S. institution or approved international institution with a final grade of B or greater may be considered for transfer credit if, at the time the courses were completed, the courses would be accepted for credit toward a similar degree for a student in degree-seeking status at the host institution. Otherwise, the limitations stated in the following section apply. Coursework in which no formal grades are given or in which grades other than letter grades (A or B) are earned (for example, CR, P, S, U, H, etc.) is not accepted for transfer credit. Courses appearing on the degree plan with grades of D, F or U may not be absolved by transfer work. Credit for thesis research or the equivalent is not transferable. Credit for coursework submitted for transfer from any college or university must be shown in semester credit hours or equated to semester credit hours. An official transcript from the university at which the transfer coursework was taken must be sent directly to the Office of Admissions.

Courses used toward a degree at another institution may not be applied for graduate credit. If the course to be transferred was taken prior to the conferral of a degree at the transfer institution, a letter from the registrar at that institution stating that the course was not applied for credit toward the degree must be submitted to the Graduate and Professional School.

Grades for courses completed at other institutions are not included in computing the GPA.

Limitations on the Use of Transfer, Extension and Certain Other Courses

Some departments may have more restrictive requirements for transfer work. If otherwise acceptable, certain courses may be used toward meeting credit-hour requirements for the master's degree under the following limitations.

1. The maximum number of credit hours which may be considered for transfer credit is the greater of 12 hours or one-third (1/3) of the total hours of a degree plan. The following restrictions apply:
   - Graduate and/or upper-level undergraduate courses taken in residence at an accredited U.S. institution, or approved international institution with a final grade of B or greater will be considered for transfer credit if, at the time the courses were completed, the student was in degree-seeking status at Texas A&M University, or the student was in degree-seeking status at the institution at which the courses were taken; and if the courses would be accepted for credit toward a similar degree for a student in degree-seeking status at the host institution.
   - Courses previously used for another degree are not acceptable for degree plan credit.
2. The maximum number of credit hours taken in post-baccalaureate non-degree (G6) classification at Texas A&M University which may be considered for application to the degree plan is 12.
3. A zero credit 681 course can be used for master's students. Other courses, including 691 research hours, are not eligible for zero credit.
4. Not more than 12 hours may be used in any combination of the following categories:
   - Not more than 8 hours in the combination of 691 (research), 684 (Professional Internship) or may be used.
   - Not more than 8 hours of 685 (Directed Studies) may be used.
   - Not more than 3 hours of 690 (Theory of Research) may be used.
   - Not more than 3 hours of 695 (Frontiers in Research) may be used.
5. A maximum of 2 hours of Seminar (681).
6. A maximum of 9 hours of advanced undergraduate courses (300- or 400-level).
7. For graduate courses of three weeks' duration or less, taken at other institutions, up to 1 hour of credit may be obtained for each five-day week of coursework. Each week of coursework must include at least 15 contact hours.
8. Continuing education courses may not be used for graduate credit.
9. Extension courses are not acceptable for credit.

10. For non-distance degree programs, no more than 50 percent of the credit hours required for the program may be completed through distance education courses.
11. To receive a graduate degree from Texas A&M University, students must earn one-third or more of the credits through the institution's own direct instruction. This limitation also applies to joint degree programs.

Exceptions will be permitted only in unusual cases and when petitioned by the student's advisory committee and approved by the Graduate and Professional School.

Thesis

An acceptable thesis is required for the Master of Science degree. The finished work must reflect a comprehensive understanding of the pertinent literature and express in clear English, the problem(s) for study, the method, significance and results of the student's original research. Guidelines for the preparation of the thesis are available in the *Thesis Manual*, which is available online at the Graduate and Professional School (https://grad.tamu.edu/) website.

After successful defense (or exemption) and approval by the student's advisory committee and the head of the student's major department (or chair of the intercollegiate faculty, if appropriate), the student must submit his/her thesis in electronic format as a single PDF file. The PDF file must be uploaded to the Graduate and Professional School (https://grad.tamu.edu/) website. Additionally, a signed paper approval form with original signatures must be received by the Graduate and Professional School. The PDF file and the signed approval form are required by the deadline.

Deadline dates for submitting the thesis are announced each semester or summer term in the "Graduate and Professional School Calendar" (see Time Limit statement). These dates also can be accessed via the Graduate and Professional School (https://grad.tamu.edu/) website.

Each student who submits a document for review is assessed a one-time thesis/dissertation processing fee through Student Business Services. This processing fee is for the thesis/dissertation services provided. After commencement, theses and dissertations are digitally stored and made available through the Texas A&M Libraries.

A thesis that is deemed unacceptable by the Graduate and Professional School because of excessive corrections will be returned to the student's department head (or chair of the intercollegiate faculty, if applicable). The manuscript must be resubmitted as a new document, and the entire review process must begin again. All original submittal deadlines must be met during the resubmittal process to graduate that semester.

Thesis Proposal

For the Master of Science degree, the student must prepare a thesis proposal for approval by the advisory committee and the head of the major department or chair of the interdisciplinary faculty, if applicable. This proposal must be submitted to the Graduate and Professional School at least 20 working days prior to the submission of the request for the final examination.

Compliance issues must be addressed if a graduate student is performing research involving human subjects, animals, infectious biohazards and recombinant DNA. A student involved in these types of research should check with the Office of Research Compliance and Biosafety at (979) 458-1467 to address questions about all research compliance responsibilities. Additional information can also be obtained on the Office of Research Compliance and Biosafety website.

Final Examination/Thesis Defense

A student must pass a final examination by dates announced each semester or summer term in the Graduate and Professional School Calendar. To be eligible to take the final examination, a student's GPA must be at least 3.000 for courses on the degree plan and for all courses completed at Texas A&M which are eligible to be applied to a graduate degree, and there must be no unabsolved grades of D, F or U for any course listed on the degree plan. To absolve a deficient grade, the student must repeat the course at Texas A&M University and achieve a grade of C or better. All coursework on the degree plan must have been completed with the exception of those hours for which the student is registered. An approved thesis proposal must be on file in the Graduate and Professional School according to published deadlines prior to the final examination or submission of the request for exemption from the final examination.

A request to hold and announce the final examination must be submitted to the Graduate and Professional School a minimum of 10 working days in advance of the scheduled date for the examination. The Graduate and Professional School must be notified in writing of any cancellations. A student may be given only one opportunity to repeat the final examination for the master's degree and that must be within a time period that does not extend beyond the end of the next regular semester (summer terms are excluded).

The final examination covers the thesis and all work taken on the degree plan and at the option of the committee may be written or oral or both. The final examination may not be administered before the thesis is available to all members of the student's advisory committee in substantially final form, and all members have had adequate time to review the document. The examination is conducted by the student's advisory committee as finally constituted. A student must be registered in the University in the semester or summer term in which the final examination is taken. Persons other than members of the graduate faculty may, with mutual consent of the candidate and the major professor, attend final examinations for advanced degrees. Upon completion of the questioning of the candidate, all visitors must excuse themselves from the proceedings. A positive vote by all members of the graduate committee with at most one dissension is required to pass a student on his or her exam. A department, or interdisciplinary degree program, may have a stricter requirement provided there is consistency within all degree programs within a department or interdisciplinary degree program.

The Report of the Final Examination Form must be submitted with original signatures of only the committee members approved by the Graduate and Professional School. If an approved committee member substitution (1 only) has been made, his/her signature must also be submitted to the Graduate and Professional School. If necessary, multiple copies of the form may be submitted with different committee member original signatures. If an approved committee member substitution (1 only) has been made, his/her signature must be included on the form submitted to the Graduate and Professional School.

A candidate may petition to be exempt from his/her final examination provided his/her degree plan GPA is 3.500 or greater and he/she has the approval of the advisory committee, the head of the student's major department, or intercollegiate chair, if appropriate, and the Graduate and

Professional School. It is required that the petition for exemption be submitted the same semester the student intends to submit the thesis.

Additional Requirements

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- Continuous Registration (p. 4)
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Residence

In partial fulfillment of the residence requirement for the degree of Master of Science, the student must complete 9 resident credit hours during one regular semester or one 10-week summer semester in resident study at Texas A&M University. A minimum of 1 credit hour must be in a non-distance education delivery mode. Semesters during which the student is enrolled in all distance education coursework will not count toward fulfillment of the residence requirement. Upon recommendation of the student's advisory committee, department head or Chair of the Interdisciplinary Program, if appropriate, and with approval of the Graduate and Professional School, a student may be granted exemption from this requirement. Such a petition, however, must be approved prior to the student's registration for the final 9 credit hours of required coursework.

Students who are employed full-time while completing their degree may fulfill total residence requirements by completion of less-than-full time course loads each semester. In order to be considered for this, students are required to submit a Petition for Waivers and Exceptions along with verification of their employment to the Graduate and Professional School.

See Residence Requirements (http://catalog.tamu.edu/graduate/academic-expectations-general-degree-requirements/#degreerequirementstext).

Continuous Registration

A student in the thesis option of the Master of Science program who has completed all coursework on his/her degree plan other than 691 (Research) is required to be in continuous registration until all requirements for the degree have been completed.

See Continuous Registration Requirements (http://catalog.tamu.edu/graduate/academic-expectations-general-degree-requirements/#registrationandacademicstatustext).

Time Limit

All degree requirements must be completed within a period of seven consecutive years for the degree to be granted. A course will be considered valid until seven years after the end of the semester in which it is taken. Graduate credit for coursework which is more than seven calendar years old at the time of the final examination (oral or written) may not be used to satisfy degree requirements.

A student who has chosen the thesis option must have the final corrected copies of the thesis cleared by the Graduate and Professional School within one year of the semester in which the final exam is taken, or a final exam exemption petition was approved. Exams taken in between terms will expire at the end of the term that ended prior to the exam. For example, a final exam taken and passed during the fall 2022 semester will expire at the end of the fall 2023 semester. A final exam taken in the time between the summer and fall 2022 semesters will expire at the end of the summer 2023 semester.

Foreign Languages

No specific language requirement exists for the Master of Science degree.

Application for Degree

For information on applying for your degree, please visit the Graduation (http://catalog.tamu.edu/graduate/academic-expectations-general-degree-requirements/#degreerequirementstext) section.