

# Master of Science Program Requirements in Earth Sciences

1. Read the Graduate School Rules for a Master of Science Degree! We have a couple of more restrictive requirements, but the graduate school requirements are a good place to start. **Earth-Sciences-specific requirements are in red.**

[http://www.montana.edu/gradschool/cat\\_for\\_masters\\_stud.html](http://www.montana.edu/gradschool/cat_for_masters_stud.html)

Graduate School Web Page is: <http://www.montana.edu/wwwdg/> in case the link above is dead.

2. Minimum requirements for the Master of Science Degree in a relevant Earth Sciences field.

- **Must be Plan A**
- Minimum of 30 credits
  - Minimum of 20 credits of course work
  - Minimum of 10 credits of thesis work
  - No more than 9 400 level credits may be counted
  - Only courses listed on a graduate program of study are applicable toward graduate degree credit requirements (to be submitted the graduate school)
  - A minimum of two-thirds (2/3) of the program (course and thesis credits) must be comprised of 500 level courses
  - No 300 level courses may be used on your graduate program
    - However such courses may be required if the committee determines the student has course work deficiencies that must be made up.
  - A maximum of 9 400 and 500 level credits taken prior to completion of baccalaureate degree may be reserved and applied toward graduate program requirements with the approval of the student's graduate committee and the Graduate School. These credits must be reserved prior to completing the course.
  - Seminar (594), Independent Study (592), Internship (598) and departmental practicum courses may not comprise more than one-third (1/3) of the minimum required credits for a graduate degree.
  - The age of courses at the time of graduation may not exceed six (6) years
  - **A minimum of three (3) graduate courses must be taken from three different Earth Sciences Faculty.**
  - You must establish your committee, hold a committee meeting, receive approval for your graduate program of study and submit your program of study to the Graduate School in your first semester at MSU.
- Thesis Committee
  - **The Chair of the committee is your advisor in Earth Sciences.**
    - **Your chair was assigned when you were accepted into the graduate program in Earth Sciences**

- **You may not change chairs without gaining acceptance in writing from your new chair and notifying your former chair in writing. These documents should be placed in your file in the Earth Sciences Office.**
  - **Non-tenure track and adjunct faculty may serve as co-chairs of thesis committees; but each committee must be co-chaired by a tenure track faculty member.**
  - **Two other members are required**
    - **At least one of those two should be from Earth Sciences**
    - **The maximum committee size is five. The Department strongly urges you to restrict your committee size to three faculty members to facilitate the scheduling of committee meetings. You may ask advice of other faculty even if they are not on your committee.**
- **Your graduate program of study is developed with the advice and consent of your graduate committee.**
  - **The graduate program of study lists the courses you must take to graduate. You may take additional courses, not listed on your program of study if you wish. These additional courses will appear on your transcript, but they are not required to graduate.**
  - **The program of study should be completed in your first semester of graduate school to be on track. That means forming and meeting with your graduate committee early your first semester of residence. Failure to turn in your graduate program by the end of your first year will result in loss of graduate standing at Montana State University.**
  - **All students must take EARTH 594 (01) seminar during their first semester. The focus of this course is the development of your thesis proposal and review of regulations.**
    - **Your thesis proposal will help you apply for internal and external grants in spring which may help with research support.**
  - **All students must take at least two (2) EARTH 594 (02) general seminar courses for credit.**
    - **Seminar (594), Independent Study (592), Internship (598) and departmental practicum courses may not comprise of more than one-third (1/3) of the minimum required credits for a graduate degree.**
  - **The student is encouraged to take courses outside of their area of focus to increase the breadth of their understanding.**
  - **If you enter the geography or snow science program without a baccalaureate degree in geography you are required to take the following with the advice and consent of your graduate committee:**
    - **One physical geography course**
    - **One human geography course**
    - **Two additional 300 or 400 level or 500 level undergraduate courses in geography**

- **Note: some of these courses may be required on your graduate program of study and may not qualify for graduate credit depending upon the level.**
- **Your thesis topic is selected in consultation with your advisor and your committee. The topic may be part of a funded research project. If receive a graduate Research Assistant appointment, the Department requires that you sign a letter of agreement between the principal investigator and the student which outlines the ownership of data, the scope of the thesis with respect to the grant, and the number of hours per week the student must work on the grant separate from the time dedicated to the thesis, and the relationship between grant and the thesis.**
- **Thesis Proposal: Your thesis proposal should be developed during your first semester in residence. This is usually completed by taking the EARTH 594 Thesis Design course. Your proposal should be developed in consultation with your advisor and committee and should be submitted to the department by the end of your first semester.**

**3. Examinations for the Master of Science Student (Graduate School Policy: [http://www.montana.edu/gradschool/cat\\_masters\\_exams.html](http://www.montana.edu/gradschool/cat_masters_exams.html) )**

- **Earth Sciences does not require a Qualifying Examination for the Master of Science student.**
- **Earth Sciences requires a Comprehensive Examination.**
  - **The comprehensive exam is usually taken in the second year (3<sup>rd</sup> semester).**
  - **You must be registered for 3 credits when you take the Comprehensive Examination.**
  - **You must have completed 75% of our course work before you take your Comprehensive Examination.**
  - **In Earth Sciences, the Comprehensive Examination must be taken at a time different than that of the thesis defense.**
  - **In Earth Sciences, Comprehensive Examinations may not be taken in the summer, during finals week, or during semester breaks under any circumstance, so please plan accordingly.**
  - **Comprehensive topics:**
    - **In geographical areas (snow, geography, GIS) the student in consultation with the thesis committee selects two (2) focal areas for the comprehensive examination.**
    - **In geological areas (geology, geohydrology) the student is expected to understand general geology at the graduate level; consult with your committee about the breadth and scope of your exam topics.**
  - **Comprehensive examinations are oral.**

- **Off campus members may participate either in person or through a conference call.**
- **Passage requires a majority vote to pass by the committee.**
  - **Any faculty member can ask a question during the Comprehensive Examination, but only the committee votes to pass or fail.**
    - **The student may pass the exam with no provisions.**
    - **The student may pass with the provision that additional course work or other remedial actions be taken in appropriate subfields.**
    - **The student may fail the examination:**
      - **The comprehensive may be retaken only once.**
      - **The retake of the comprehensive examination may be administered no sooner than 30 days after the first comprehensive examination.**
- **You are required to retake courses that are older than six (6) years and are on your program of study to ensure you are up to date in your knowledge.**
- **After passage of all your course work or your comprehensive exam you are required to be continuously registered.**
  - **You may be absent for a maximum of three semesters including summer without penalty.**
  - **Your leave of absence may be consecutive or individual semesters.**
  - **No approval is needed, but please tell your committee what you are doing.**
  - **If you are on leave (not registered) you are not entitled to use University facilities.**
    - **Laboratories**
    - **Microscopes**
    - **Library**
  - **Failure to maintain continuous enrollment is evidence that you have resigned from the degree program.**
  - **Additional absences may be approved for medical reasons or military service.**
  - **These regulations were articulated by the Vice Provost for Graduate Education in 2009.**
- **Earth Sciences requires a defense of thesis that is separate from the comprehensive examination.**
  - **The defense may only be scheduled when the committee agrees the thesis draft is ready.**
    - **Approval may take some time. In general, each time a draft is submitted to the Chair or to the committee the student should not expect a response in less than 14 days.**
    - **The chair of the committee must approve a defense draft before the thesis is submitted to the committee.**
      - **Note: this implies at least 28 days between submittal of a thesis for review and the defense (14 days for the chair and, assuming no major problems, 14 days for the committee).**

- The defense must be completed before the end of the 14th business day of the semester if the student intends to graduate that semester.
- The defense must include a public presentation and a private (committee and student only) defense.
  - Public presentation and defense must be completed during the period of scheduled classes in the academic year, not during final exam week, not during holidays, and not during the summer.
- The Department of Earth Sciences strongly encourages (but does not require) students to write their thesis in a journal format.

#### 4. Other requirements and information:

- The philosophy behind a Master of Science Degree is focused on research. A Master of Science student should learn to identify an achievable research question, develop and execute a research methodology to answer the question, perform guided but independent research to answer the question, and write a thesis which describes the question, the methodology, the results and discusses the answer to the question.
- Note: Your degree will be Master of Science in Earth Sciences. No specialty area such as geography, geology, GIS, or snow science will be on your transcript or degree.
- MSc candidates are required to be thoroughly familiar with all information and requirements outlined in the [Graduate Catalog](#) and [Division of Graduate Education](#) website and are responsible for meeting all dates and deadlines.
- Approval of the thesis will be defined by the signature of the Graduate Dean only after the thesis has been judged to meet all expectations. A thesis is considered completed when accepted by the MSU Library in an electronic format.
- M.S. candidates must then provide, via email to the front office staff the link to this electronic file to be posted to the department website. A CD copy of the thesis is also to be provided to the main office of the department.

#### 5. Petition to change from M.S. to a Ph.D.

- Content coming soon.