

Each M.S. student is expected to have a faculty advisor at all times during their graduate studies. As there is considerable amount of freedom in the program, each student is expected to assume responsibility for designing their program in consultation with their advisor. The advisor must approve the final program. The specific requirements are listed below.

M.S. Degree Plan I: Thesis

Students enrolled in M.S. Plan I must develop a plan of study in consultation with their graduate advisor that includes courses to be taken and how thesis research will be conducted. The thesis committee members can also advise on the plan, and should be updated on significant changes.

Course Requirements – Graded Core and Electives (minimum of 24 units): Students enrolled in M.S. Plan I must complete at least two semesters of full-time academic residence at UC Merced (12 units minimum per semester). Graduate students in ES are required to submit a program of study to the Graduate Group Advisor upon enrollment in the program. As there is considerable amount of freedom in the program, each student is expected to assume responsibility for designing his/her program. A student is expected to develop graduate level competency in environmental systems.

Core Courses (total 5 units): The required core course is ES 200 (3 units). Enrollment in 2 credits (semesters) of the ES seminar (ES 291) is also required.

Graded Elective Courses: A minimum of 17 units of graded elective ES 200-level coursework; the most up-to-date course list is in the yearly UC Merced Catalog. This can include any courses taken as part of an emphasis track.

Other Elective Courses: 2-4 additional credits of S/U or graded courses such as further semesters of ES 291 (ES Seminar), graduate research (ES 295), an undergraduate course, or a course from another graduate program.

If students wish to follow a concentration track they should **A)** fill out a Change of Degree form to indicate which concentration they are choosing and **B)** fulfill the more specific course requirements of that concentration track. A petition may be submitted to allow a change in some of these courses if a course needed to fulfill the track is not offered, or if the student has taken similar courses as part of a prior degree.

Transfer of Credits: Though ordinarily all work for the M.S. degree is done in residence, some work taken elsewhere may be credited toward the degree. The normal limit for such transfer work is up to one-fifth the total unit requirement from another institution or up to one-half of the unit requirement from another campus of the University of California, *provided the units were*

not used to satisfy the requirements for another degree. The following policies apply specifically to the transfer of units toward M.S. degree requirements:

- Units of work taken elsewhere than the University of California may not be used to reduce the minimum residence requirement or the minimum requirement in the 200-series courses taken at UCM.
- Petitions for transfer of credit should be submitted within the first semester after enrollment as a UCM graduate student or completion of the academic work for which transfer credit is requested.
- The faculty advisor should make a request to the Graduate Dean specifying the units and courses involved and provide an official transcript for the course(s).

Coursework summary: 5 units of core coursework (ES 200 & 291), a minimum of 19 units of graded elective coursework, and a total of 24 units. Full-time students must enroll for 12 units per semester including research, academic and seminar units. Per UC regulations, ordinarily students shall not receive credits for more than 12 units of graduate-level (200) courses per semester. Students must maintain a cumulative GPA of at least 3.0 to remain in good standing. Courses graded "S/U" will not be counted in determining grade point averages.

Advancement to Candidacy: Before advancing to candidacy for the M.S. Plan I degree, a student *must have completed a minimum of one semester of full-time residence and at least 12 units of graduate (200-level) courses* and must have maintained a minimum GPA of 3.0 in all course work undertaken. Normally, students advance by the end of the third semester. The student must file the appropriate paperwork (Application for Advancement to Candidacy for the Master's Degree and Conflict of Interest Form). Advancement to Candidacy must be filed prior to the beginning of the final semester of enrollment

Thesis Requirements: In addition to the coursework, completion of the degree requires that students:

- Prepare a *written thesis* describing relevant research in the field that is read and accepted for defense by the Thesis Committee.
- *Defend the thesis via oral examination*, attended and approved by the Thesis Committee.

Thesis committee meetings: The candidate and advisor should meet at least once a year with the other members of the Thesis Committee to discuss progress and any changes in research objectives

Thesis: Research for the Master's thesis is to be carried out under the supervision of a faculty member of the program and must represent an original contribution to knowledge in the field.

The thesis research must be conducted while the student is enrolled in the program. The thesis must be submitted to the Thesis Committee at least one month before the scheduled thesis defense (final examination).

The M.S. thesis defense consists of an open seminar on the M.S. work followed by a closed oral examination by the Thesis Committee. No student should appear for this examination until they have been advanced to candidacy by the Dean of Graduate Education. A student must be registered or in current filing fee status when the examination is taken. The date of the examination is arranged between the student and the committee members.

Oral thesis examinations may not be longer than two hours. *All members of the Thesis Committee must be in attendance for an oral M.S. final examination (connection via videoconferencing is acceptable).*

An ES faculty member of the Thesis Committee, who is not the faculty advisor, will be Examination Chair for the thesis defense. The Examination Chair is also responsible for ensuring that assessment materials related to the oral thesis exam are completed by committee members and submitted to assessment staff in a timely fashion. During the examination, the student is expected to explain the significance of the thesis research, justify the methods employed, and defend the conclusions reached. At the conclusion of the examination, the committee shall vote on whether both the written thesis and the student's performance on the exam are of satisfactory quality to earn a University of California M.S. degree. The committee should strive to reach a unanimous decision.

Possible outcomes are:

a. Pass: A student has passed when the Thesis Committee unanimously votes that the student passed the entire examination with scholarship that is at least acceptable. If agreed unanimously by the committee, the student may be allowed to make minor modifications prior to submitting the results of the examination.

b. Fail: A student has failed when the Thesis Committee votes unanimously that Environmental the student failed the entire examination. The second examination may have a format different from the first, but the substance should remain the same. A student whose performance on the second attempt is also unsatisfactory, or who does not undertake a second examination within a reasonable period of time, is subject to academic disqualification.

c. Partial pass: A student has partially passed when the Thesis Committee votes unanimously that the student passed some examination components but failed others. In this instance, the following apply:

- i. The student has the option of taking a second examination as detailed above on the components failed.
- ii. A student whose performance on the second attempt is also unsatisfactory, or who does not undertake a second examination within a reasonable period of time as established by the examination committee, is subject to academic disqualification.

Members of the Thesis Committee may vote to make passing the exam contingent on corrections and/or revisions to the thesis. In this case, the committee will select one member,

normally the graduate advisor, who will be responsible for approving the final revision of the thesis prior to its submittal to the Graduate Division.

All committee members must approve the thesis in its entirety and sign the title page before the thesis is submitted electronically to the Graduate Division for final approval. Should the committee determine that the thesis is unacceptable, even with substantial revisions; the program may recommend the student for disqualification from the program to the Vice Provost and Dean of Graduate Education.

If the Thesis Committee cannot reach a unanimous decision concerning a pass, fail, or partial pass, the Examination Chair should determine the areas of disagreement. The Examination Chair must request, and each committee member must write, a detailed assessment of the student's performance for submission to the Vice Provost and Graduate Dean. The committee should only inform the student that the matter was sent to the Vice Provost and Graduate Dean for a final decision. The student has neither passed or failed the exam until the Vice Provost and Graduate Dean decides the results.

The thesis must be submitted by the deadline listed in the Graduate Division website, in the semester in which the degree is to be conferred. Those students who complete requirements and submit thesis after the end of the semester and prior to the start of the subsequent semester will earn a degree for the following semester but will not be required to pay fees for that semester. Instructions on the submission and filing of the thesis are available in the UCM Thesis and Dissertational Manual.

A schedule of dates for filing the thesis in final form is published on the Graduate Division website in the Dates and Deadlines section.

M.S. Degree Plan II Non-thesis

For this track, a comprehensive final examination is required of each candidate. No thesis is required.

Course Requirements - Core and Electives (minimum 24 units): Students enrolled in M.S. Plan II must complete at least two semesters of full-time academic residence at UC Merced (12 units minimum per semester). Graduate students in the ES group are required to submit a program of study to the Graduate Group Advisor upon enrollment in the program. As there is considerable amount of freedom in the program, each student is expected to assume responsibility for designing his/her program. A student is expected to develop graduate level competency in environmental systems.

Core Courses (total 5 units): Same as MS Plan I Thesis.

Graded Elective Courses: Same as MS Plan I Thesis.

Other Elective Courses: Same as MS Plan I Thesis.

Transfer of Credits: Same as MS Plan I Thesis.

Advancement to Candidacy: Before advancing to candidacy for the M.S. Plan II degree, a student *must have completed a minimum of one semester of full-time residence and at least 9 units of graduate (200-level) courses* and must have maintained a minimum GPA of 3.0 in all course work undertaken. Normally, students advance at the end of the first semester. The student must file the appropriate paperwork (Application for Advancement to Candidacy for the Master's Degree). Advancement to candidacy must be filed prior to the beginning of the final semester of enrollment

The comprehensive examination should be taken by students who have completed their Plan II course requirements. No student should appear for this examination until after she or he has been advanced to candidacy. For most students, the exam is taken at the end of third semester. Students must be registered or in current filing fee status at the time when they take the examination.

Examination: The M.S. comprehensive examination is *3-hour oral and/or written test that assesses general preparedness in the discipline*. In the case of the end-of the year written exam, students must respond to 4 questions, each addressing material covered in graduate courses in ES at UCM.

Reference material (texts, reference books, notes, etc.) are not permitted. Calculators and computers may be permitted if the examination committee deems them necessary.

Outcome: Examinations can result in either a pass or fail. If a student does not pass the examination, they may be reexamined. The examination may not be repeated more than once. A student whose performance on the second attempt is also unsatisfactory, or who does not undertake a second examination within a reasonable period time of time as established by the examination committee, is thereby subject to disqualification from further work as a graduate student in this program

Normative Time to Degree

Nominally, a student advances to candidacy and completes the Master's Degree Plan I within 2 years and Plan II within 1 year. Extensions beyond these limits can be permitted by the Education Policy Committee.

Typical Timeline and Sequence of Events

The goals and needs of individual students vary considerably, and no single plan will accommodate all students. Therefore, the following programs of study should be considered as a general guide only.

The general timeline for Master's Degree Plan I:

Year/Semester	Activities
Year 1 (Semesters 1,2)	Learn about research Take classes
Summer 1	Begin full time research with faculty advisor
Year 2 (Semesters 3,4)	Continue full time research with faculty advisor Take one class a semester, if necessary Assemble faculty committee (Semester 3, if not already done) Prepare manuscript(s) for publication Present work at scientific conference; network for career Defend and publish thesis (semester 4)

The general timeline for Master's Degree Plan II:

Year/Semester	Activities
Year 1 (Semester 1)	Take classes and advance to Candidacy
Year 1 (Semester 2)	Finish coursework and pass Comprehensive Exam

Sources of Funding

M.S. Plan I students are typically supported as graduate student researchers via a research grant by their faculty advisor or a student fellowship earned by the student. M.S. Plan II students typically pay their own way. In some cases, M.S. students may have an opportunity to be supported via a teaching assistantship, but this funding is preferentially offered to Ph.D. students.

Transferring from M.S. to Ph.D. Program

A M.S. student who wants to transfer to the Ph.D. program before finishing his or her M.S. degree must go through a Ph.D. admission process managed by the ES Admissions Committee. This involves submitting a new Statement of Purpose addressing a possible dissertation topic,

three new letters of recommendation (typically from ES faculty), a CV and a transcript to the Admissions Committee, as well as filling out the Change in Degree form (see Graduate Division P&P Handbook).