

## **ENVIRONMENTAL SYSTEMS GRADUATE GROUP DEGREE PROGRAM REQUIREMENTS**

### **M.S.: SUMMARY OF REQUIREMENTS (Thesis)**

- Complete at least two semesters of full-time academic residence at UC Merced (12 units minimum per semester)
- Complete a minimum of 24 units of courses at the upper division and graduate levels, with at least 18 units of graded graduate (200-level) courses in the major subject, including Environmental Systems (ES 200) (with letter grade "B" or better)
- Enroll in the Environmental Systems seminar (ES 291) twice for credit (S/U)
- Give a public oral presentation and successfully defend a M.S. thesis containing original research

### **For Advancement To Candidacy**

The requirements for advancement to candidacy are:

- A minimum of one semester of full-time residence (a total of 12 units)
- Completion of at least 12 units of graded graduate (200-level) courses

Advancement to candidacy must be filed at least one semester before completion of all degree requirements.

### **SELECTION OF A MAJOR PROFESSOR AND FACULTY COMMITTEE**

The heart of the Environmental Systems M.S. program is the completion of a piece of original scientific research leading to the preparation and defense of a M.S. thesis. We recommend that all M.S. students chose their major professors by the end of their first semester. Students are required to have selected a major professor by the end of their second semester. A major professor (the student's primary advisor) must be ladder-ranked ES faculty. The student and the major professor together will develop a research topic, and research will normally occupy a majority of the student's time after the first year of residence. Interdisciplinary projects are highly encouraged, as are research collaborations with faculty or senior scientists both inside and outside UC Merced.

Once the M.S. student selects his/her major professor, he/she, in consultation with the major professor and program faculty, forms a degree committee. The role of the degree committee is to advise on and supervise the student's choice of courses, thesis research, serve on examination committees, and/or review and pass upon the merits of the thesis. The degree committee is composed of a minimum of three members, including the major professor, and the majority of the committee must be ladder ranked ES faculty. Other committee members may be regular or adjunct faculty from UC Merced, any UC campus, or an individual from outside the University of California who has special expertise and qualifications.

Reconstitution of the committee may be justified by a substantial change in the student's thesis topic or may be required by the departure of a committee member from the university. Also, if a committee member's absence from campus for an extended period of time makes scheduling of examinations unreasonably difficult, the student may request that the committee be reconstituted. When membership changes must be made, the major professor in consultation with the student should recommend a new committee member, giving the reason for the change. Changes to the degree committee must be approved by the Dean of Graduate Studies.

### **REQUIREMENTS FOR THE M.S. DEGREE (THESIS)**

### **RESIDENCY**

The minimum residency requirement for any advanced degree is two semesters. M.S. students must be registered as a full-time student for at least one semester before advancement to candidacy, and for at least one semester after advancement to candidacy and before conferral of the degree. Ordinarily, a graduate student shall not receive credit for more than 12 units of graduate courses or more than 16 units of upper division courses in any term.

### **SCHOLARSHIP**

Graduate students must maintain at least a 3.0 grade-point average to be considered in good academic standing or to be awarded an academic graduate degree. Only courses in the 100 and 200 series in which the student receives grades of "A", "B", and "C" or "S" may be counted in satisfaction of the requirements for advanced degrees. A course in which a student receives a "D" or lower cannot be used to satisfy the unit requirement for the degree but will count in determining the grade point average. Courses graded "S/U" are not counted in determining grade point averages.

A student whose cumulative graduate grade-point average falls below 3.0, or who is judged not to be making satisfactory progress toward the degree by his or her major professor or degree committee, will be placed on academic probation. The student will then be allowed a maximum of two semesters to make up the deficiencies. Students must make satisfactory progress on their programs of study as determined by their major professor.

### **COURSEWORK REQUIREMENTS**

Graduate students in the Environmental Systems 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. Unit requirements are:

- Complete a minimum of 24 units of courses at the upper division and graduate levels, with at least 18 units of graded graduate (200-level) courses in the major subject, including Environmental Systems (ES 200) (with letter grade "B" or better)
- Enroll in the Environmental Systems seminar (ES 291) twice for credit (S/U)

### **Transfer Credit**

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 six units 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 regulations 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 the University.
- Requests for transfer credit are to be made prior to or at the time of advancement to candidacy. The major professor should make a request to the Graduate Dean specifying the units and courses involved, and provide an official transcript for the course (s).

### **FOR ADVANCEMENT TO CANDIDACY**

The requirements for advancement to candidacy are:

- A minimum of one semester of full-time residence (a total of 12 units)
- Completion of at least 12 units of graded graduate (200-level) courses

Advancement to candidacy must be filed at least one semester before completion of all degree requirements.

### **THESIS AND FINAL EXAMINATION**

The M.S. thesis must be written on a topic approved by the degree committee. The topic should be acceptable to all members of the degree committee, when they agree to serve, and a joint meeting of the committee members and the student should be held at that time. The M.S. thesis must be the student's independent and creative work that can stand the test of peer review. The expectation is that the material will serve as the basis for publication(s) in a peer-reviewed journal. The student is encouraged to discuss with members of the degree committee both the substance and the preparation of the thesis well in advance of the planned defense date.

The student must provide a copy of the thesis to each member of the degree committee and allow each committee member at least two weeks to read and comment on it. If one or more committee members believe that there are significant errors or shortcomings in the thesis, or that the scope or nature of the work is not adequate, then the student must address these shortcomings before scheduling a defense. Once the committee members are in agreement that the thesis is ready to be defended (even though minor errors or matters of controversy may still exist), the final examination date may be scheduled by the student in consultation with the committee. Final examinations may not be longer than three hours. The date must be reported to the Dean of Graduate Studies, and one copy of the thesis filed, no later than two weeks before the proposed date of the final examination.

The M.S. final examination consists of an open seminar on the M.S. work followed by a closed oral examination by the degree committee. All members of the degree committee must be in attendance for an oral M.S. final examination (connection via videoconferencing is acceptable). An ES faculty member of the degree committee, who is not the major professor, will chair the thesis defense. 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. A simple majority is required for a pass. All members of the degree committee sign the final thesis.

Members of the committee may vote to make conferral of the degree contingent on corrections and/or revisions to the thesis. In this case, the committee will select one member, normally the major professor, who will be responsible for approving the final version of the thesis that is submitted to Dean of Graduate Studies. If the thesis is regarded as of less than acceptable quality, the student should be given an appropriate period of time, clearly specified by the committee, in which to improve her/his work. If, after that period of time (usually a semester or more), the thesis is still unacceptable to a majority of the committee, the majority may recommend to the Dean of Graduate Studies that the student be disqualified from further graduate study.

### **NOMINAL TIME TO M.S. DEGREE**

The nominal time for completion of the M.S. program (with thesis) is 4 semesters. Completion of research towards the thesis often requires that the student work on his or her research project over the summer.