

COMPREHENSIVE EXAMINATION FOR M.S. STUDENTS

The Master of Science (M.S.) degree may be earned either with a thesis (Plan I) or with a written comprehensive examination (Plan II). This document outlines the procedure for M.S. students who elect Plan II (written comprehensive exam).

Students who select Plan II must pass the departmental written comprehensive examination not later than the end of the Fall quarter of their second year of study. The written exam will be offered only once every year. It will always be given in the first few weeks of the Fall quarter.

Students who pass the written examination will receive a terminal Masters degree.

****You must pass the written comprehensive examination by the end of the Fall quarter of your second year of study****

Course Requirements

- A total of 48 units, of which 36 units must be in graduate courses. (Note: this is greater than the minimum requirements of the university, which is a total of 36 units.) Refer to the degree planner form for your discipline area for a list of core courses from which the 36 graduate course units must be selected. The degree planner form may be obtained from the Graduate Student Affairs office or the ECE website: <http://www.ece.ucsd.edu/grad/sadvisors/>
- The course requirements must be completed within two years of full-time study. Your faculty advisor will help you select courses and approve your overall academic curriculum.

Scholarship Requirements

- The 48 units of required course work must be taken for a letter grade (A-F), except for graduate research (e.g., ECE 298, 299) for which only S/U grades are allowed.
- Courses for which a D or F is received may not be counted.
- You must maintain a GPA of 3.0 overall or above in upper division graduate course work undertaken, with a total of no more than 8 units of "F" and/or "U" grades.

Comprehensive Requirements

- You may count four units of ECE 299 (Research) toward the thirty-six graduate units required.
- You must pass the written comprehensive exam not later than the end of the Fall quarter of your second year of study.

Advancement to M.S. Candidacy

You must file the *Application for Candidacy for the Thesis or Comprehensive Examination Plan I or II, for the Degree of Master of Arts or Sciences* form no later than the second week of the quarter in which Ph.D. course requirements are to be completed. Ideally, you will complete at the time of registration in the last of "core" courses. See an ECE Graduate Student Affairs Advisor to obtain the relevant form.

NOTE: At least one quarter must lapse between advancement to candidacy and passing the comprehensive exam. The minimum residence requirement is 3 academic quarters.

EXAM PROCEDURES

Initial Preparation

1. Plan to take the written exam not later than the end of the Fall quarter of your second year of study.
2. Select one of the three exam formats, which are outlined below.
3. Review the practice questions, which are posted on the ECE website:
<http://www.ece.ucsd.edu/grad/mexam/>
4. You must sign up for one of the three exam formats by the deadline, which is posted on the ECE website: <http://www.ece.ucsd.edu/grad/mexam/>
5. Complete and submit the following forms to the ECE Graduate Student Affairs office either prior to your examination date or when you return to collect your forms after your exam.
 - Program Exit Interview
 - ECE Department Exit Form

Exam Format

1. The exam is available in three formats:
 - i. *General (Option A)* is a written exam covering a broad range of topics, demonstrating an overall comprehension of the field of electrical engineering. The topics are Mathematics (**required**) plus the student's choice, during the exam, of any three of the following:
 1. Electricity & Magnetism,
 2. Signals & Systems,
 3. Solid State Electronics,
 4. Circuits, and
 5. Logic Design.Students must pass three of the four topics to pass the exam.
 - ii. *Depth (Option B)* is a written exam covering a slightly less broad range of topics at the undergraduate level plus a single topic covered at the graduate level. The topics are Mathematics (**required**) plus the student's choice, during the exam, of any two of the following:
 1. Electricity & Magnetism,
 2. Signals & Systems,

3. Solid State,
4. Circuits, and
5. Logic Design,
6. plus one of the following depth topics, specified by the student at sign-up:
 - i. Applied Physics / Electronic Devices & Materials
 - ii. Communication Theory & Systems
 - iii. Computer Engineering
 - iv. Electronic Circuits & Systems
 - v. Intelligent Systems, Robotics and Control
 - vi. Nanoscale Devices & Systems
 - vii. Photonics
 - viii. Signal & Image Processing

Students must pass three of the four topics to pass the exam.

- iii. *Project (Option C)* Consists of a project with a written report conducted under the supervision of a faculty member. Students who select the project option must turn in a form signed by the faculty member to the ECE Graduate Student Affairs Office. The written report is due on or before the day of the written comprehensive exam, and will be graded pass/fail by a committee including the faculty member sponsoring the project.
2. The written exams (Option A and B) will be held on a Saturday, on the **third week** of the Fall quarter. Please refer to the ECE website for the exact date and time for the exams:
<http://www.ece.ucsd.edu/grad/mexam/>
 3. The written exams are 4 hours in duration.

Results of the Exam

1. The examination committee will determine the outcome of the written examination/project to be one of the following:
 - i. Pass students will receive a terminal Master of Science degree;
 - ii. Fail students may petition to take an oral exam within one month.
2. The outcome of the exam/project will be conveyed via email to you at least one week following the exam.
3. The ECE Graduate Student Affairs Advisor will notify you via email when your forms are ready for collection.
4. After collecting the following forms from the ECE Graduate Student Affairs Advisor, you must submit them to the Office of Graduate Studies (OGS) by the last day of the quarter in which you will receive your M.S. degree:
 - i. Final Report of the Thesis or Comprehensive Examination (Plan I or II) for the Degree of Master of Arts or Science; and
 - ii. Graduate Degree and Diploma Application

Completion of the MS degree

1. The M.S. degree will be awarded in the same quarter that you pass your comprehensive exam, as long as you advanced to M.S. candidacy no later than second week of the same quarter. **NOTE:** You must be registered in the quarter in which the degree is to be awarded.

2. You will receive a letter confirming that you have successfully completed the M.S. degree requirements at the end of the same quarter.
3. You will automatically receive a diploma four to six months after the end of the quarter of completing the M.S. degree requirements.
4. The Academic Computing Services (ACS) automatically extends the closing date of accounts belonging to students who applied to graduate. Students who have applied to graduate are sent an e-mail notice with details about the extension which is for approximately 60 days. Please take the following steps before you graduate to preserve your valued computer files and to minimize the risk of missing e-mail sent to you:
 - i. Arrange for a new e-mail account through the UCSD Alumni Association, an off-campus ISP, or an employer.
 - ii. Redirect mail addressed to <username>@ucsd.edu to your new account. When you leave the University, ACT will continue to forward e-mail sent to your @ucsd.edu address for up to one year.
 - iii. Move copies of your important computer files to portable media, your home computer or another computer account.
 - iv. Ask ACS to delete your account from student/instructional systems. To do this login to your account BEFORE IT CLOSES and send a message to acs-consult@ucsd.edu requesting that your account be deleted.

Please visit the following website for further information: <http://acs.ucsd.edu/account-tools/account-status.php>

Degree Completion Notes:

Filing Deadlines: The deadlines for filing the *Final Report* is on the Friday before the last day of Fall and Winter quarters, and one week earlier for Spring quarter.

Filing between Quarters: Registration will be waived if you are completing between quarters, as long as you were registered in the previous quarter. The M.S. degree will be conferred at the end of the following quarter.

Filing Fee: If you are on an approved leave of absence and have completed all requirements except the written comprehensive exam, you may petition to pay a filing fee (one half of the registration fee) in lieu of full registration fees. Cashier validated General Petition must be submitted with your *Final Report* form.

Summer Degrees: If you are completing your degree requirements during the Summer and you were enrolled in the previous Spring quarter, you do not pay any additional fees but must file a General Petition to waiver registration between quarters. If you are completing your degree requirements during the Summer and you were on leave of absence in the previous Spring quarter, you will pay the filing fee for completion and will also need to file a General Petition to complete between quarters. OGS publishes a schedule of specific deadline dates for Summer degrees at the end of each Spring quarter.

Registration in the Final Quarter for the Award of the Degree: If you need only to take the written comprehensive exam, you may pay a filing fee in lieu of registration in the final quarter.