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ECE M.S. Comprehensive Exam Guidelines 2026-2027

Students planning to complete their ECE M.S. degree's capstone via the Comprehensive Examination (Capstone: Plan II) are required to successfully pass three course-hosted comprehensive exams.

Course-hosted comprehensive exams are practical exams designed to evaluate students' abilities to apply what they have learned in the course. In order to ensure that the exam is relevant and presented in context, it will be the course's final exam or the overall percentage earned in the course that will be evaluated. In most cases, the associated work serves dual purposes, contributing independently to students' course grades as well as to their comprehensive exam scores.

The exam will take the form of the specific course's final exam or the overall percentage earned in the course will be evaluated. The availability of courses, or course-hosted exam offerings, is subject to change per the faculty committee.

COMPREHENSIVE EXAM POLICIES

- Students are **required to successfully pass comprehensive exams in three (3) courses** (see the list of eligible courses below). The results—based on either the course's final examination or the overall percentage earned in the course—will be evaluated.
- **Students are permitted a maximum of five (5) attempts**. This means that a student can fail at most two attempts and still be eligible for their M.S. degree under the Plan II comprehensive exam option.
- Students who do not pass the comprehensive exam in a course may not retake the comprehensive exam for that course unless they earned a D, F, or W grade in the course. The student would be required to submit a Repeat Course Form as well.
- Students must be currently enrolled and select the "Letter" grade option for a course in which they register to attempt the comprehensive exam.
- Courses that students register to count as comprehensive exam attempts ***do not*** need to come from the list of Core or Additional Units courses on the degree planners. Students can attempt any comp exam-eligible course towards their comp exam requirement. It is just convenient when the course fulfills both a planner requirement and a comprehensive exam.

- The ECE Student Affairs team will notify students of their comprehensive exam result(s) via their UCSD email.

- The ECE Student Affairs team will announce the course-hosted comp exam registration via email at the beginning of Week 3 each quarter during the academic year. **The registration period closes on Friday at 11:59 PM (Pacific Time) of Week 4**. Please note that no eligible ECE courses are offered during Summer Session. Students must register in advance via the registration form by the specified deadline in each of Fall, Winter and Spring quarters if they would like to attempt a comprehensive exam.

- Students are allowed to edit their responses during the registration period. No changes will be allowed after the deadline of Friday at 11:59 PM (Pacific Time) of Week 4.

- Once the registration is closed, the attempt is counted, even if the student drops or withdraws from the class or does not complete the exam component for any reason. Students must be careful to ensure that they have submitted their correct course-hosted exam selections before the registration deadline.

⚠️ ***Important note for B.S./M.S. students:***

- ECE undergraduate students who are accepted into the B.S./M.S. program may register for the course-hosted comprehensive exams while they are still an undergraduate student, regardless of whether the course units will be later transferred to the M.S. degree.
- B.S./M.S. students must complete their capstone requirement (thesis or comprehensive exams) while enrolled in the M.S. program. For the exam option, up to two comp exams may be completed as undergraduates, but at least one must be completed during the M.S. degree.
- An email will be sent out to all admitted B.S./M.S. students on Monday of Week 3 each quarter with a B.S./M.S. Comprehensive Exam Registration Form. For any unique circumstances or specific questions, please reach out to ECE MS Advising at ecemsadvising@ucsd.edu for assistance.



COMPREHENSIVE EXAMINATION ECE ELIGIBLE COURSES

- Note: The department cannot guarantee that all eligible courses listed above will be offered each academic year. Please check the course offerings section on our ECE website and TSS each quarter. Also, the assessment of final exam grade vs course overall percentage grade may be updated quarter-to-quarter based on instructional needs. The registration form will list the updated assessment type when it opens during Week 3 of each quarter.
- For courses with an **asterisk (*)**, the overall percentage earned in the course will be evaluated instead of the final exam. For courses with a **carrot (^)**, the assessment type is TBD.
- Courses in turquoise text denote changes for the 2026-27 academic year.

Plan II M.S. students must pass three (3) comprehensive exams from among the following ECE courses:

ECE Course	Title
201	Intro to Biophysics
203*	Biomedical Integrated Circuits and Systems
204*	Statistical Learning in Bioinformatics
212AN / BN	Principles of Nanoscience and Nanotechnology / Nanoelectronics
221	Magnetic Materials: Principles and Applications
222A / B / C* / D*	Antennas and Their System Applications / Electromagnetics / Computational Methods for Electromagnetics / Advanced Antenna Design
225A	Probability and Statistics for Data Science
230A / B / C*	Solid State Electronics I / II / III
240A* / B / C*	Lasers and Optics / Optical Information Processing / Optical Modulation and Detection
241A / B* / C^	Nonlinear Optics / Integrated Photonics / Holographic Optical Elements
245* (prev. 284)	Advanced Computer Architecture
247A / B* / C*	Advanced BioPhotonics / BioElectronics / BioNanotechnology
250	Random Processes
251A / C	Digital Signal Processing I / Filter Banks and Wavelets
253*	Fundamentals of Digital Image Processing
255A	Information Theory
258A	Digital Communications I
260A / B* / C*	VLSI Digital System Algorithms and Architectures / VLSI Integrated Circuits and Systems Design / VLSI Advanced Topics
264A / B / C	CMOS Analog Integrated Circuits and Systems I / II / III
265A / B / C	Communication Circuit Design I / II / III
269	Linear Algebra and Application
271A	Statistical Learning I
272A	Dynamic Systems I: Linear Systems
276A	Sensing and Estimation in Robotics

COMP EXAM FREQUENTLY ASKED QUESTIONS

1. **How can I best prepare for the exam?**
   Given that the comprehensive exams are the course's final exam or the overall percentage earned in the course will be evaluated, you don't need to do anything special to prepare for the comprehensive exam beyond what you do to prepare for the course. Prepare as you normally would for the final exam using TAs and other course support, as permitted by the course's policies.

2. **How and when will I be notified about my comprehensive exam result(s)?**
   The ECE Student Affairs team will email your comprehensive exam result(s) as PASS or FAIL within 2-3 weeks of your final exam(s) to your UCSD email address. An email will come directly from the ECE Student Affairs team. There is no need to ask the instructor about the comprehensive exam as the results are released by the department.

3. **How can I review my graded exam?**
   The material is managed by the course staff (professor and TAs), in the same way as other course assignments. ECE M.S.advising staff do not have access to your coursework, so you will need to contact your professor and/or TAs.

4. **How can I appeal my score?**
   If you would like to appeal your course-hosted comprehensive exam result(s) that you signed up for, you may do so by emailing your course instructor(s) and CC the ECE M.S. advising account at ecemsadvising@ucsd.edu. Appeals are initially reviewed by the original grader or supervising faculty member. Written appeal requests must be submitted within 1 week after the comprehensive exam results are released.

5. **If I don't pass the comprehensive exam after five (5) attempts, what are my options?**
   Students may pursue the M.S. thesis option (M.S. Plan I), but there is no guarantee that they will find an advisor. Please meet with an M.S. Advisor and/or email ecemsadvising@ucsd.edu if you fall under this category.

6. **If I do not pass a course's final exam, can I repeat the course and try again?**
   No; you will need to pick another course unless you earned a D, F, or W in the course and plan to repeat the same course and comp exam (this will count as two attempts).

7. **If a course is cross-listed with another department, can I take the course with the other department and count it towards the comprehensive exam? For example, BENG 247A is cross-listed with ECE 247A.**
   No; you will need to take the ECE version if you want it to count towards the comprehensive exam.

8. **I am a CE student (EC79). Can I use a CSE course that's listed on my degree planner to count towards the comprehensive exam attempt?**
   No; you will need to take the approved ECE courses listed in this document.

9. **Do I need to register for the course(s) every quarter for the comprehensive exam?**
   A new form will be sent out on Monday of Week 3 each quarter that only lists available courses for that quarter. You are not required to register for comp exams every quarter as long as you can fulfill the requirement to pass a minimum of three exams within 6 quarters. It is up to the student to decide on how many course(s) you would like to register for each quarter. Please contact ecemsadvising@ucsd.edu if you are in doubt.

10. **What is the pass/fail rate for the comprehensive exam?**
    The department cannot disclose the pass rate for the comprehensive exam. If you find out that you did not pass the comprehensive exam and think that there was an error in the grading, then you are welcome to submit a regrade request to the course instructor. The department sets the cutoff for each course and we do not disclose the pass/fail rate to the students.

11. **If I am a thesis student, should I register for the course-hosted comprehensive exam?**
    If you plan to complete the thesis as your capstone requirement, we highly encourage you to still register for the comprehensive exam in the case you do not pursue the thesis. Many times students change their minds about pursuing the thesis and we'd rather you have the course-hosted comprehensive exams as a backup. If you plan on doing the thesis, please email ecemsadvising@ucsd.edu two quarters prior to the quarter you plan to defend your thesis and graduate.

12. **I am currently an undergraduate student who just got accepted into the B.S./M.S. program and I am planning to take some of the listed courses. Can I register for the course-hosted comprehensive exams?**
    ECE undergraduate students who are accepted into the B.S./M.S. program may register for the course-hosted comprehensive exams while they are still an undergraduate student, regardless of whether the course units will be later transferred to the M.S. degree.

    As a reminder, B.S./M.S. students must complete their capstone requirement (thesis or comprehensive exams) while enrolled in the M.S. program. For the comp exam option, up to two comp exams may be completed as undergraduates, but at least one must be completed during the M.S. degree.

    An email will be sent out to all admitted B.S./M.S. students on Monday of Week 3 each quarter with a B.S./M.S. Comprehensive Exam Registration Form.

13. **Is the capstone requirement we select - Plan I or Plan II reflected on the M.S. degree/diploma we get from UC San Diego?**
    The capstone requirement that you select and complete will not appear on your diploma or transcript from UC San Diego. The results of the comprehensive exams and thesis will not appear on your diploma or transcript.

14. **I enrolled and registered for a course (EX: ECE 250) for my comprehensive exam in Fall quarter and then, at a later time, I decided to withdraw from the course with a "W". Am I allowed to enroll in that same course and register that course as my comprehensive exam again in a later quarter?**
    Yes, you are allowed to enroll in the same course and register that course as one of your comp exams in a later quarter. However, you will be using two attempts on this course, out of the five total attempts.

15. **I enrolled and registered for a course (EX: ECE 250) for my comprehensive exam in Fall quarter and then did not pass the course (earned a D, F, or W grade). Am I allowed to enroll in that same course and register that course as my comprehensive exam again in a later quarter?**
    Yes, you are allowed to enroll in the same course and register that course as one of your comp exams in a later quarter. However, you will be using two attempts on this course, out of the five total attempts.

16. **I enrolled but did not register for a course (EX: ECE 250) for my comprehensive exam and later I decided to withdraw from the course with a "W". Am I allowed to enroll in that same course and register that course for my comprehensive exam again?**
    Yes, you are allowed to enroll in the course and register that course as one of your comprehensive exams.

17. **I enrolled in comprehensive exam-eligible courses during my undergraduate degree, but did not sign up for them to count as comprehensive exams during the quarter I took the courses. Can I retroactively have those courses count as comp exams?**
    No, courses you wish to count as comprehensive exam attempts must have been counted as an attempt during the quarter you took the course; attempts are only counted if you sign up on the quarterly comp exam registration form. No retroactive actions are allowed. You will need to sign up for additional coursework to count towards your comp exam requirements even if those courses are being used in excess of your degree planner's required coursework.

18. **I enrolled in comprehensive exam-eligible courses during my graduate degree, but did not sign up for them to count as comprehensive exams during the quarter I took the courses. Can I retroactively have those courses count as comp exams?**
    No, courses you wish to count as comprehensive exam attempts must have been counted as an attempt during the quarter you took the class; attempts are only counted if you sign up on the quarterly comp exam registration form. No retroactive actions are allowed. You will need to

sign up for additional coursework to count towards your comp exam requirements even if those courses are being used in excess of your degree planner's required coursework.

19. **Is there a deadline for me to complete my comprehensive exam capstone requirement?**
    Yes, the deadline is your graduating quarter. You may enroll and register for course-hosted comprehensive exam(s) during your graduating quarter in the program, upon successfully passing 3 comprehensive exams, you will meet the comprehensive exam capstone requirement. It is **highly recommended** that you do not enroll and register for more than 2 comprehensive exam courses in a quarter, especially during your first quarter in the program.

20. **If I received a C- and passed the course, did I pass the comprehensive exam for that course as well?**
    Not necessarily. If the course is using its final exam as the comprehensive exam, a student could score poorly in their final exam (not passing the comprehensive exam) but do well in other assignments to bring up the overall grade for that course to receive a passing grade. If a course is using the overall percentage earned in the course for the comprehensive exam, the department will determine the cutoff for that course and it may or may not be higher than a passing grade.

21. **If I requested an "incomplete" for a course (EX: ECE 250) and my final exam is scheduled at a later time, does my final exam still count towards the comprehensive exam?**
    Yes, your final exam can still be used to count towards your comprehensive exam. Please note that your final exam will be different from the original final exam, however, the department will use the same cutoff score to determine your comprehensive exam result, considering that the difficulties of the two final exams should be at the same level.

22. **What is the official date that will be recorded as fulfilling my comprehensive exam requirement?**
    The official date that will appear on your Academic History as fulfilling your comprehensive exam requirement is the Friday of finals week in the quarter you pass your third and final section.

23. **I'm planning to drop a course, take a course for S/U, or have changed my mind on my previous comp exam registration submission. How do I cancel or change my comp exam registration BEFORE the form closes on Friday of Week 4?**
    - If you would like to change your registered attempts before the quarterly comp exam registration deadline, simply edit your previous selections to either add/remove courses and resubmit the form.
    - If you would like to cancel ALL of your registered attempts for the current registration period because you (1) changed your mind, (2) are dropping the course without a "W", or (3) are changing the grading option to S/U, please select the last option on the list to cancel your registration (the form will not allow you to make 0 course selections or delete your submission).