

## **Guide to the MS Comprehensive Exam Cal Poly Dept of Civil & Environmental Engineering**

Follow the steps below to arrange for your Comprehensive Exam:

1. Create your committee—In the quarter prior to your exam quarter, identify a permanent, full-time CE/ENVE professor who agrees to be your committee chair. Find a second full-time professors/lecturer in the department to serve on the committee and a third committee member who can be from the university or elsewhere.
2. Schedule your exam—The exam should be scheduled your final quarter as a student. Summer term exams are allowed in principle, but the committee may not be available and additional tuition will need to be paid.
3. Submit the Graduate Program Committee Form found here (<https://ceenve.calpoly.edu/grad-forms>).
4. Permission Number—A permission number will be provided for 1 unit of CE596 (C/NC) during the quarter of your exam with the chair as instructor. This unit counts towards the total needed to graduate.
5. Comprehensive Exam—Comprehensive exams should be done during dead week or finals week. Coordinate a date/time that works with your committee and keep an email record of this.
6. Complete the assignment given by your committee and prepare for your oral exam where you present a 20 min presentation followed by a question and answer session.
7. After successful completion of your exam Submit the Master's Exam Approval Form found here (<https://grad.calpoly.edu/checklist-forms/forms.html>).

### CE/ENVE Comprehensive Exam Process

“A comprehensive examination is one of the possible culminating experiences for the master's degree and assesses the student's ability to (1) integrate knowledge, (2) show critical and independent thinking, and (3) demonstrate mastery of the subject matter. The results of the examination should provide evidence of these abilities and achievements. A record of the examination questions and responses is maintained.... The quality of work accomplished, including the quality of the writing, is the major consideration in judging.” -- Cal Poly Catalog

Review the following exam description with your Committee Chair.

- The comprehensive exam will give an opportunity for the student to demonstrate mastery of the discipline, including the ability to tackle open-ended engineering problems and synthesize knowledge.
- The exam will be composed of a written and oral portion. In addition to technical content, writing quality will be considered in the grading. The oral portion allows evaluation of oral communication (e.g., clarity, logic, and style) and the versatility and adaptability of the student in dealing with integrated technical topics.
- The assignment for the written portion will be prepared by the committee chair in consultation with the two other committee members. The chair will communicate to the student as early as possible the general breadth of the comprehensive topics to be on the written and oral portions.
- Some recommendations for the exam are the following:
  - Preparation for the exam and completion of the assignment and presentation will require 40+ hours of student effort,
  - The written portion will be submitted to the committee at least one week prior to the oral portion,
  - The oral portion of the exam will include a student presentation of 20 minutes,
  - A question-and-answer period will not be limited to the specific topics of the written portion but cover the breadth of knowledge of the specialization, and
  - Whiteboard calculation questions should be expected, and
  - The examination will typically last 90 minutes.
- The committee will evaluate the written and oral portions of the exam and recommend a single “pass” or “fail” result. There may be follow up work required of the student to satisfy the educational goals of the comprehensive exam.
- The written portion of the exam and a summary of the oral portion should be submitted by the committee chair to the CE/ENVE office for archiving.
- If the committee’s decision is “fail”, the student has a second chance to take a comprehensive exam no sooner than the subsequent quarter.

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