



UC DAVIS

**CIVIL AND ENVIRONMENTAL
ENGINEERING**

Guidance Manual For Graduate Students and their Advisors

Effective Fall 2016*

This manual presents the policies and procedures of the departmentally based graduate program in Civil and Environmental Engineering that pertain to graduate students and their advisors. The requirements and rules presented are in addition to those of the Graduate Council, the Office of Graduate Studies and the College of Engineering. Students and advisors are expected to be aware of additional policies, requirements and deadlines described in the UC Davis General Catalog and the Schedule of Classes. This manual reflects the graduate degree requirements as approved by the Graduate Council on May 20, 2016.

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I. ADVISING SYSTEM

GRADUATE COORDINATOR (GRADUATE STAFF ADVISOR)

The Graduate Coordinator is the first point of contact in the CEE department for all administrative issues pertaining to the graduate program. The Graduate Coordinator handles the administration of all required forms and petitions, graduate student questions and referrals, and monitors desk space assignments for all graduate students. All forms and petitions which require a signature from the Graduate Adviser must first be submitted to the Graduate Coordinator, who will obtain the signature and submit the forms to the appropriate office(s).

GRADUATE ADVISER

The Graduate Adviser serves as the department's representative to the Office of Graduate Studies and the College of Engineering. The Graduate Adviser is a resource for all graduate students in the department to provide information and advising on academic requirements, policies and procedures. The Graduate Adviser's signature is required on most forms related to graduate affairs such as petitions for exception, change of major requests, PELP requests, Programs of Study and Advancement to Candidacies. The Graduate Adviser also chairs the Departmental Graduate Program Committee (GPC), and reports on graduate matters to the faculty.

STUDENT'S MAJOR PROFESSOR (FACULTY ADVISER)

New students should select a Major Professor before completing the first quarter. Students should discuss with the selected faculty member and obtain their consent to serve as their Major Professor. While students should feel free to discuss academic matters with any faculty member, typically the Major Professor will oversee most of the student's research and progress during their degree program. Students may change major professors at any time as their research and educational interests change and develop. Students working on research jointly with more than one professor also may have two co-advisors. The Major Professor submits the annual "Graduate Student Annual Progress Report" via the Graduate Coordinator to the Office of Graduate Studies. New students are temporarily assigned to the Graduate Program Committee member for their group who can assist in formulation and approval of a coherent course of study and also signs the first quarterly "Graduate Study List."

GRADUATE PROGRAM COMMITTEE (GPC)

This committee is composed of the Chairperson of the GPC, the CEE Department Chair, and a member from each of the five research groups within CEE: Environmental, Water Resources, Geotechnical, Structural, and Transportation Engineering. The committee's responsibilities are outlined in detail in the bylaws of the CEE Graduate Program (Appendix A) and summarized here. The GPC administers the Graduate Program, acts on issues regarding graduate admissions and degree requirements, recommends TA assignments, advises on fellowship support for graduate students, and reviews and approves Programs of Study for doctoral students. Additionally, the five members of GPC

from each of the research groups within CEE serve as temporary advisers to new graduate students until the selection of a Major Professor.

COLLEGE OF ENGINEERING GRADUATE STUDY COMMITTEE (GSC)

The Graduate Study Committee is composed of the individual Graduate Advisers or their designees from each Graduate Program in the College of Engineering. The function of this Committee shall be to coordinate and communicate matters of common interest to all graduate programs in the College of Engineering. Within the policies and procedures of Graduate Council, the GSC committee reviews cross-department graduate curricula issues, awards graduate fellowships and scholarships administered by the College, disseminates information pertaining to engineering graduate studies, and addresses issues related to graduate student welfare in the College.

MENTORING GUIDELINES

(Adopted from UC Davis Graduate Council)

Graduate Council recognizes that the mentoring of graduate students by faculty is an integral part of the graduate experience. Faculty mentoring is broader than advising a student as to the program of study to fulfill coursework requirements and is distinct from formal instruction in a given discipline. Mentoring encompasses more than serving as a role model. Because of the uncertainty as to the nature of mentoring, the UC-Davis Graduate Council has outlined the following mentoring roles to guide the relationship between faculty and graduate students. Faculty and graduate students must realize that, while the Major Professor will be the primary mentor during a student's career at UCD, many of the mentoring "functions" defined below may be performed by program faculty other than the Major Professor. An important corollary to this recognition is that faculty members must realize that much of their interaction with all students has an important mentoring component. Graduate students also have responsibilities to insure successful mentoring and these are also indicated below.

Faculty have a responsibility to mentor graduate students. Mentoring has been defined as....

- A. Guiding students through degree requirements. This means:
 - 1. Providing a clear map of program requirements from the beginning; making clear the nature of the coursework requirements and qualifying exam; and defining a timeline for their completion.
 - 2. Providing clear guidelines for starting and finishing dissertation or thesis work, including encouraging the timely initiation of the dissertation or thesis research.

- B. Guiding students through thesis or dissertation research. This means:
 - 1. Evaluating clearly the strengths and weaknesses of the student's research.
 - 2. Encouraging an open exchange of ideas, including pursuit of the student's ideas.
 - 3. Checking regularly on progress.
 - 4. Critiquing written work.
 - 5. Providing and discussing clear criteria for authorship of collaborative research.

6. Assisting in finding sources to support dissertation research, such as, teaching assistantships, research assistantships, fellowships, etc.
7. Being aware of student's research needs and providing assistance in obtaining required resources. For example, serve as the student's advocate for necessary desk and/or laboratory space.

C. Guiding students through professional development. This means:

1. Providing guidance and serving as a role model for upholding the highest ethical standards.
2. Treating students respectfully.
3. Encouraging and critiquing oral and written presentations.
4. Encouraging participation in professional meetings and conferences.
5. Facilitating interactions with other scholars, on campus and in the wider professional community.
6. Assisting with applications for research funding, fellowship applications, and other applications as appropriate for the respective discipline.
7. Being the student's advocate in academic and professional communities.
8. Providing career guidance, specifically assistance in preparation of CV and job interviews, and writing letters of recommendation in a timely manner.
9. Recognizing and giving value to the idea that there are a variety of career options available to the student in her/his/your field of interest and accepting that the student's choice of career options is worthy of your support.

As partners in the mentoring relationship, graduate students have responsibilities.

As mentees, students should:

1. Be aware of their own mentoring needs and how they change through their graduate tenure. Graduate students should discuss mentoring needs with their mentors.
2. Recognize that one faculty member may not be able to satisfy all of a student's mentoring needs. Seek assistance from multiple individuals/organizations to fulfill the mentoring roles described above.
3. Recognize that their mentoring needs must respect their mentor's other responsibilities and time commitments.
4. Maintain and seek regular communication with their mentors, especially their Major Professor.

II. STUDENT RESPONSIBILITIES

Students are responsible for meeting all Graduate Program, Departmental, College, and Graduate Studies requirements set forth in this manual, the General Catalog and Class Schedule and Directory. Selected requirements are summarized below.

REQUIRED CORE COURSES

Courses core to the CEE Graduate Program are specific to one of the five areas of specialization within Civil and Environmental Engineering: Environmental, Geotechnical, Structural, Transportation, and Water Resources. Students must complete the core courses in their respective area of specialization as part of their program of study in the CEE Graduate Program. The courses may be taken on the UCD campus, or their equivalent from another accredited academic institution.

Environmental Engineering (8-10 units)

- a) Core Courses (8 units): Students must choose either a “Water track” or an “Air track”
 - Students pursuing the Water track must complete ECI 243A (4 units) and ECI 243B (4 units) - Water and Waste Treatment
 - Students pursuing the Air track must complete ECI 242 Air Quality (4 units) and ECI 247 Aerosols (4 units)
- b) Elective Courses: In addition to the above required core courses for the Water or Air track, students in the Environmental Engineering track are encouraged to complete as an elective two quarters of Environmental and Water Resources Engineering Seminar: ECI 296 (2 units)

Geotechnical Engineering (11-16 units)

- a) Core Courses (11-12 units); Students pursuing the Geotechnical Engineering track must complete the following core course:
 - ECI 281A – Advanced Soil Mechanics (4 units)and an additional two core courses from the following list:
 - ECI 259 - Asphalt and Asphalt Mixes (4 units)
 - ECI 280A - Nonlinear Finite Elements for Elastic-Plastic Problems (4 units)
 - ECI 280B - Nonlinear Dynamic Finite Elements (4 units)
 - ECI 281B - Advanced Soil Mechanics (4 units)
 - ECI 282 - Pavement Design and Rehabilitation (4 units)
 - ECI 283 - Physico-Chemical Aspects of Soil Behavior (3 units)
 - ECI 284 - Theoretical Geomechanics (4 units)
 - ECI 286 - Advanced Foundation Design (4 units)
 - ECI 287 -Geotechnical Earthquake Engineering (4 units)
 - ECI 288 - Earth and Rockfill Dams (4 units)
- b) Elective Courses: Students interested in geotechnical engineering practice are encouraged to take ECI 281B - Advanced Soil Mechanics (4 units)

Structural Engineering and Structural Mechanics (12-16 units)

- a) Core Courses (12-16 units): Students pursuing the Structural Engineering or Structural Mechanics track are encouraged to complete all four, but must complete a minimum of three of the following core courses:
 - ECI 201 - Introduction to Theory of Elasticity (4 units)

- ECI 211 - Advanced Matrix Structural Analysis (4 units)
- ECI 212A - The Finite Element Method in Structural Mechanics (4 units)
- ECI 213 - Analysis of Structures Subjected to Dynamic Loads (4 units)

Transportation Engineering (21-22 units)

- a) Core Courses (17-18 units): Students pursuing the Transportation Engineering track must complete the following core courses:
- ECI 251 – Transportation Demand Analysis (4 units)
 - ECI 256 – Urban Traffic Management and Control (4 units)
 - An economics course such as ECN 100, ECN 145, ECI 268, ARE 275, ARE/ESP 175, ARE 176, or a course similar in spirit as approved by the Transportation Engineering Area Advisor (econometrics courses are normally not considered similar in spirit: they are statistics-oriented, and can have relatively little economics content per se). (3-4 units)
 - TTP 281 – ITS weekly seminar series: must be taken each quarter for at least the first two years. Can be waived due to a conflict with another course, after confirmation with the Transportation Engineering Area Advisor. (6 units)

Water Resources Engineering (8 units)

- a) Core Courses (8 units): Students pursuing the Water Resources Engineering track must complete two core courses from the following list:
- ECI 240 - Water Quality (4 units)
 - ECI 272A - Advanced Hydrogeology (4 units)
 - ECI 276 - Watershed Hydrology (4 units)
 - ECI 277A - Computational River Mechanics (4 units)
 - ECI 279 - Advanced Mechanics of Fluids (4 units)

REQUIRED BACKGROUND COURSES FOR STUDENTS WITHOUT AN ENGINEERING DEGREE

Students without a BS in Engineering who are admitted to the CEE graduate program are required to complete the following courses or equivalents. The engineering nature of prior degrees may be certified by the Graduate Advisor, with appeal to the Graduate Program Committee based on the course content of prior degrees.

Select four courses from the following six categories:

ENG 103 Fluid Mechanics 4 units
 ENG 104 Mechanics of Materials 4 units
 ENG 105* Thermodynamics 4 units
 (* or Chem 110C or Chem 107A or Chem 107B)
 ECI 141 Engineering Hydraulics 3 units
 ECI 115 Computer Methods 4 units
 ECI 114 Probabilistic Systems Analysis 4 units

Including at least two of the following three classes:

ENG 103
 ENG 104

ENG 105

In addition to the above courses, students must complete at least an additional 6 upper division engineering course units (minimum of 2 courses) approved by the students Major Professor or Graduate Adviser.

In consultation with their Major Professor, students must prepare a list of the courses that they are taking to satisfy the above requirements including a brief written explanation of any equivalent courses. Some or all of these course requirements may be satisfied by equivalent courses. Equivalent status of courses is determined on a case-by-case basis by the Graduate Adviser, in consultation with the student's Major Professor and the Chairperson, upon a written request by the student. If a student would like to count a course taken at another institution to fill one or more of these requirements, they must provide to their Major Professor and the Graduate Adviser a syllabus of the course taken, and evidence that they received a satisfactory grade in the course. None of the courses taken to fulfill the above requirements may be used for credit toward an advanced degree in Engineering, and all must be taken for a letter grade.

SUMMARY OF MASTER'S DEGREE REQUIREMENTS

Degree Requirements

Course work

	Plan I MS	Plan II MS
Minimum number of graduate <u>engineering</u> course units (exclusive of 290C and 299)	23*	28*
Minimum number of graduate and undergraduate course units (exclusive of 290C and 299 and courses listed below)	27**	32**
ECI 290 (Seminar)***	1	1
ECI 299 and ECI 290C (Independent study or research) One unit of ECI 290C must be included each quarter when 299 units are taken.	Variable (8 min)	Variable (2 min)
TOTAL MINIMUM UNITS REQUIRED	36	36

* Graduate courses within the College of Engineering may be used toward this requirement (including TTP courses). Students may count only one upper division undergraduate course, excluding the prerequisite courses for students without an engineering degree. Exceptions to this policy will be permitted only by the approval of the student's Major Professor.

** Coursework must be taken for a letter grade (ECI 290, ECI 290c, ECI 299, and ECI 296 are not letter graded courses and cannot be used toward this requirement), and passed with a grade of at least C. No undergraduate course that was required for a student's undergraduate degree may be transferred from a student's undergraduate degree to fulfill any aspect of the graduate degree course work requirement. Students must have completed the undergraduate course while in graduate level standing. In addition, any course taken as an undergraduate student may not be

retaken as a graduate student to fulfill any aspect of the graduate degree course work requirement. Finally, the following courses are considered core undergraduate courses and many not be taken as a graduate student to fulfill any aspect of the graduate degree course work requirement: ENG 102, 103, 104, 105; and ECI 132, 135, 141, 171, 171L, 190. HYD 144 may not be taken for credit if ECI 144 is offered in the same calendar year. This list is subject to change without warning as undergraduate curriculum changes occur.

For students entering the CEE graduate program without a BS in engineering, none of the following courses taken to fulfill required background courses may be used to fulfill any aspect of the graduate degree course work requirement: ENG 103, ENG 104, ENG 105, Chem 110C, Chem 107A, Chem 107B, ECI 141 and 141L, ECI 115/189E, ECI 114, and 6 additional upper division course units.

*** MS students are encouraged to take ECI 290. However, waivers may be granted to students with equivalent public speaking and presentation skills. For criteria on obtaining a waiver, see the Section on ECI 290 Seminar Requirements later in this manual.

Thesis/Report/Exam

In conjunction with your Major Professor, select a three-person thesis or comprehensive examination committee as soon as practical (See Part III for Committee Membership and Responsibilities).

Master of Science (M.S.), Plan I (Thesis): A minimum of 36 units of coursework and a thesis are required. At least 27 units of coursework must be taken for a letter grade. Of the 27 units of coursework, 23 units must be graduate courses (200 level) in engineering and the remaining 4 units must be earned in upper division or graduate level courses (100 level or above), exclusive of seminar and research units. The remainder of the 36 unit requirement consists of ECI 290 Seminar and thesis research (ECI 299, 290C) units and/or additional coursework. If a student is granted a waiver for ECI 290, then additional units of directed research (ECI 299, 290C) or coursework must be taken to fulfill the 36-unit requirement of a M.S. Plan II. Only courses in which a 'C' or higher or 'Satisfactory' (in courses with no letter-grading option) are earned may be counted toward satisfaction of degree requirements. Please see the section on Standards of Scholarship for additional information. A thesis must be approved and signed by a three-person committee and submitted to the Office of Graduate Studies.

Although work for the Master of Science degree can be completed in three quarters of full-time study, at least one calendar year to six quarters of full-time study is usually required to complete the M.S. Plan I.

Thesis committee meetings: The candidate and Major Professor 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 is submitted to the thesis committee at least one month before the student plans to make requested revisions. All committee members

must approve the thesis and sign the title page before the thesis is submitted to Graduate Studies 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 Dean of Graduate Studies.

The thesis must be filed in a quarter in which the student is registered or on filing fee status. Instructions on preparation of the thesis and a schedule of dates for filing the thesis in final form are available from Graduate Studies; the deadlines are also printed in the Class Schedule and Registration Guide issued each quarter. A student must have a GPA of at least 3.0 for the M.S. degree to be awarded.

Master of Science (M.S.), Plan II (Report / Exam): A minimum of 36 units of coursework and a project or comprehensive exam are required. At least 32 units of coursework must be taken for a letter grade. Of these 32 units of coursework, 28 units must be graduate courses (200 level) in engineering and the remaining 4 units must be earned in upper division or graduate level courses (100 level or above), exclusive of seminar and research units. The remainder of the 36-unit requirement consists of one unit of ECI 290 Seminar and at least 2 units of directed research (ECI 299, 290C). If a student is granted a waiver for ECI 290, then additional units of directed research (ECI 299, 290C) or coursework must be taken to fulfill the 36-unit requirement of a M.S. Plan II. Only courses in which a 'C' or higher or 'Satisfactory' (in courses with no letter-grading option) are earned may be counted toward satisfaction of degree requirements. Please see the section on Standards of Scholarship for additional information.

Fulfillment of the Comprehensive Examination is the last requirement of the M.S. Plan II. A student may take the comprehensive examination once they have advanced to candidacy. Students complete the written report/examination during the final quarter of graduate study.

The written report is generally expected to have the scope and quality of a refereed journal paper, without the need to be an original contribution to the field. The student must have the report approved by a three-person committee, which constitutes a written examination. In addition an oral presentation and/or exam may be required. Oral exams vary but typically the three committee members meet with the student for one hour and questions are asked. The questions may be directly related to the report and/or to any courses that the student has taken. The relevant Graduate Studies requirements are: "Plan II requires completion of 36 units of upper division and graduate courses and satisfactory performance on a comprehensive final examination. A comprehensive final examination in the major subject may be written or oral or both according to the rules adopted by the particular graduate program. The student should be informed in advance of the general subject matter on which she/he will be examined."

Standards of Scholarship

For courses to count toward satisfaction of degree or credential requirements, the student must earn an "A", "B", "C" or "satisfactory". Upper division or graduate level

courses completed with a C- grade or lower do not count towards the student’s unit requirement for the master’s degree, but do count in computing the GPA. Please note that a “satisfactory” is only accepted for courses with no letter-grading option. Students must maintain a minimum UCD cumulative and quarterly grade point average of 3.0 in all upper division (100 series) and graduate courses (200 series). Lower division courses are excluded in calculating the graduate GPA. They also do not count toward graduate program degree requirements.

Required Forms to File

- a. **“Graduate Study List”** - First year students must file this form quarterly with the Graduate Coordinator after obtaining the signature of their Major Professor. The Graduate Study List is placed in graduate student mailboxes at the beginning of each quarter.
- b. **“Program Checklist”** – First year students must file this form by the end of their second quarter after obtaining the signature of their Major Professor.
- c. **“Graduate Student Annual Progress Report”** - This form is placed in student mailboxes each year early in May. Return the form to the Graduate Coordinator after obtaining the signature of your Major Professor.
- d. **“Application for Candidacy”** - Submit applicable form to the Graduate Coordinator at the beginning of the quarter in which you intend to graduate (see Class Schedule and Directory for filing deadlines). The Graduate Coordinator will obtain the signature required of the Graduate Adviser. This form may be obtained from the Graduate Coordinator and is also available online at the CEE homepage. To advance to candidacy, students must be in good standing and have a cumulative UCD GPA of at least 3.0 in all upper division and graduate courses.
- e. **“Master’s Report Form, Plan II” (Plan II Students only)** – Plan II students must file this form in their final quarter, approving that the student has completed their report, oral exam if applicable, and all requirements for the master’s degree. The Committee Chair must sign off on the form, note the date, and write “passed.” The student must have advanced to candidacy. Return the form to the Graduate Coordinator. The graduate coordinator will obtain the signature of the Graduate Adviser. This form may be obtained from the Graduate Coordinator and is also available online at the CEE homepage.

Master of Science Degree Program Timeline

The expectation is that full-time students in the masters program will broadly adhere to the following timeline:

Action Item	Quarter	
	M.S. Plan I	M.S. Plan II
Select a Major Professor	1	1
Select a M.S. Thesis Committee	2	2
Complete Graduate Study List	1, 2, 3	1, 2, 3

Complete Program Checklist	2	2
Complete Graduate Annual Progress Report	3, 6	3
Complete coursework	3	3
Complete thesis or report	4-6	3-5
Complete Application for Candidacy	3-5	2-4

The timeline for students entering the CEE graduate program without a BS in engineering and who must complete prerequisite courses will likely be extended by 1-2 quarters, depending on the extent to which their previous coursework fulfills the prerequisite requirements.

SUMMARY OF DOCTORAL DEGREE REQUIREMENTS

“The Doctor of Philosophy degree is not granted by the University of California merely for the fulfillment of technical requirements, such as residence or the completion of fundamental courses. The recipient of a Ph.D. degree is understood to possess thorough knowledge of a broad field of learning and to have given evidence of distinguished accomplishment in that field; the degree is a warrant of critical ability and powers of imaginative synthesis. The degree also signifies that the recipient has presented a doctoral dissertation containing an original contribution to knowledge in her or his chosen field of study.” (from UC Davis Graduate Advisors Handbook)

Program of Study Committee

Consult with your Major Professor to identify a Program of Study Committee as soon as possible, but no later than the end of your first quarter of study (see Section III for Committee Membership Requirements). The doctoral Program of Study Committee, composed of three faculty members, serves as the Guidance Committee and have the responsibility to guide you in formulating your Program of Study. In consultation with this Committee, develop a Program of Study.

Program of Study for PhD

The Program of Study form serves as the formal written plan of courses to be reviewed and approved by the GPC. The form is filed twice, once as preliminary Program of Study, and subsequently as final Program of Study. The preliminary Program of Study (student must check the “preliminary” box on the form) lists the courses planned to be used to satisfy the curriculum requirement of the Ph.D. degree, and should be filed with the Graduate Coordinator before the end of the second quarter of entering the Ph.D. program. The preliminary Program of Study must be reviewed and approved by the GPC within the first three quarters of entering the Ph.D. program. Early submission will allow Ph.D. students to adjust their Programs before investing time and energy in courses that may not be approved by the GPC. If a student decides to make any changes to the preliminary Program of Study after it has been approved by the GPC, the student must submit a revised preliminary Program of Study for a second review by the GPC. Upon completion of the coursework, and in order to request Graduate Studies’ approval of the Qualifying Examination committee, the student files the final Program of Study, including grades, with the GPC (student must check the “final” box on the form) for review and approval.

GPC approval of the final version is a requisite step toward assignment of the Qualifying Examination committee. Because this involves both GPC and Graduate Studies review, the student is strongly encouraged to work closely with their Major Professor to determine the proper time for submission of the final version in order to schedule the Qualifying Examination as the student desires.

The GPC has the right to reject Programs of Study that are inadequately developed. Students are recommended to consult with their Major Professor and their Program of Study Committee, and follow the guidelines (below) carefully, in developing their Program of Study.

The Program of Study can be based on 1 major with 1 minor, or 1 major with 2 minors. In either case, a minimum of 54 units of graded course work beyond the baccalaureate degree, and exclusive of seminars and research, are required. A minimum of 30 units must be taken at the UC Davis campus. Total program must contain at least 40 units of graduate courses (not including seminars and research units). Programs of Study with one minor must contain at least 30 units in the major (at least 24 units at the graduate level) and at least 15 units in the minor (at least 9 units at the graduate level). Programs of Study with two minors must contain at least 27 units in the major (at least 21 units at the graduate level) and at least 12 units in each minor (at least 9 units in each minor at the graduate level). Only courses in which a 'C' or higher or 'Satisfactory' (in courses with no letter-grading option) are earned may be counted toward satisfaction of the Program of Study. Please see the section on Standards of Scholarship for additional information. Courses taken more than eight years prior to the Qualifying Examination are normally not counted toward satisfaction of the Program of Study.

It is strongly recommended that you consult with faculty members in the minor areas, as well as your own Program of Study committee and Major Professor, to develop coherent minor(s). Examples of minors include mathematics, numerical analysis, statistics, chemistry, microbiology, and economics.

Acceptable Programs of Study must satisfy the following qualitative criteria:

- **Breadth:** two or three broad fields of study inclusive of a major and one or two minors;
- **Depth:** knowledge of theoretical and practical aspects of the field usually, but not always, satisfied by a minimum of 30 units in the major;
- **Coherence:** the courses in the minors should broaden and complement the stated major. The requirement of coherence expressly precludes taking a large number of single courses in unrelated areas.

When submitting the preliminary and final Program of Study for GPC review and approval, the following supplemental information should be provided in writing:

- For any course outside of CEE, provide either a syllabus for the course or description of the topics covered in the course;

- One, or more, paragraphs describing how the minor(s) complement the major and meet the criteria of breadth, depth, and coherence.
- For students including courses on the Program of Study from institutions that assign numeric grades, a description of the basis for converting the numeric grades into letter grades should be provided. Both the numeric and letter grade should be provided on the Program of Study form.
- For students including courses on the Program of Study from institutions that are not on a quarter system, a description of the basis for converting course units into quarterly units should be provided.

Ph.D. Qualifying Examination

Upon completion of the Program of Study, Ph.D. students will take an oral Qualifying Examination (QE). The Qualifying Exam Committee is composed of five individuals, three or four people knowledgeable in the student's major, and one or two persons knowledgeable in the minor(s). A student must have a UCD cumulative graduate GPA of at least 3.25 to take the Ph.D. Qualifying Exam.

- i) Objective:* The primary purpose of the Qualifying Examination is to validate that the student is academically qualified to conceptualize a research topic, undertake scholarly research and successfully produce the dissertation required for a doctoral degree.
- ii) Scope:* The QE must evaluate the student's command of the field, ensuring that the student has both breadth and depth of knowledge, and must not focus solely on the proposed dissertation research. The Qualifying Exam is an oral exam. The exam shall include the following elements:
 - A concise written research plan submitted to members of the examination committee at least three weeks prior to the exam (or on a schedule agreed upon by the student and committee members). The written research plan shall provide an overview of the student's research to committee members.
 - A presentation of the above research plan during the oral examination. The purpose of the presentation is to provide an overview of the student's research plan to the committee members.
 - A portion of the exam shall be dedicated to the evaluation of the student's proposed research, and the remaining portion of the exam period shall be dedicated to the evaluation of the student's understanding of academic coursework.
- iii) Evaluation:* The evaluation shall be based on the following criteria:
 - The student must broadly demonstrate sufficient competence in the selected disciplinary area (beyond the limited area of scholarship associated with a dissertation topic), based on the student's past academic, research, and scholarly record and the performance on the examination.
 - The student must demonstrate the capability for integration and utilization of knowledge and skills critical for independent and creative research, thereby qualifying them for advancement to the research-intensive phase of doctoral education.

Upon completion of the Qualifying Examination, the committee chair indicates the results on the "Report on Qualifying Examination for Admission to Candidacy for the Degree Doctor of Philosophy" form, and returns it to the Graduate Coordinator, who then sends it to Graduate Studies. Upon *successful* completion of the Qualifying Examination, the student receives an "Application for Candidacy for the Degree of Doctor of Philosophy." The Chair of the Qualifying Examination signs the form, and the student completes the application, pays the fee, and then returns it to the Graduate Coordinator for processing.

ECI 290 requirements for Ph.D. students

The ECI 290 course should be listed on the Program of Study but is not counted toward the 54-unit course work requirement. If a student has already taken ECI 290 (seminar) as a Masters student, he/she need not take it again as a Ph.D. student. Waivers may be granted to students with equivalent public speaking and presentation skills. For criteria on obtaining a waiver, see the Section on ECI 290 Seminar Requirements later in this manual.

Standards of Scholarship

For courses to count toward satisfaction of degree or credential requirements, the student must earn an "A", "B", "C" or "satisfactory". Upper division or graduate level courses completed with a C- grade or lower do not count towards fulfilling a student's Program of Study, but they do count in computing the GPA. Please note that a "satisfactory" is only accepted for courses with no letter-grading option. Students must maintain a minimum cumulative and quarterly grade point average of 3.0 in all upper division (100 series) and graduate courses (200 series). Additionally, a student must have a UCD cumulative graduate GPA of at least 3.25 to take the Qualifying Exam and advance to candidacy. Lower division courses are excluded in calculating the graduate GPA. They also do not count toward graduate fulfilling the Program of Study.

Overview Key Requirements for Ph.D.:

- a. Students must maintain a minimum UCD cumulative and quarterly grade point average of 3.0 in all upper division (100 series) and graduate courses (200 series). Additionally, a student must have a UCD cumulative graduate GPA of at least 3.25 to take the Qualifying Exam and advance to candidacy.
- b. Satisfy residency requirement (minimum of 6 quarters of full-time enrollment)
- c. Approval of a Program of Study
- d. Pass qualifying examination (five-person committee)
- e. Approval of Ph.D. Dissertation (three-person committee). The doctoral dissertation must be an original and substantial contribution to knowledge in your major field. In it, you must demonstrate the ability to carry out a program of advanced research and to report the results in accordance with standards observed in recognized scientific journals.

Summary of Required Forms to File

Students are required to obtain all of the forms listed below and complete them with the guidance of their Major Professor. Forms can be obtained from the Department's Graduate Coordinator or electronically from the CEE homepage. After completion they should be returned to the Graduate Coordinator for appropriate signature and/or approval for processing:

- a. **"Program of Study"** - This form should be filed no later than the second quarter of study. The GPC will then review the Program of Study at their next meeting. The Program of Study and all revisions (if any) must be approved by the GPC before filing the *Application for Qualifying Examination*. Note: the GPC meets at least once per quarter. A copy of the approved Program of Study is filed in the Department office.
- b. **"Application for Qualifying Examination"** - This form is required to establish the membership of a Qualifying Examination committee and to set the date of the examination. The Graduate Adviser will confirm satisfactory execution of the Program of Study before this form is forwarded to the Office of Graduate Studies for approval. (Note: *If your UC Davis overall GPA is less than 3.25, you will not be admitted to a doctoral oral qualifying examination.*) The Graduate Studies office must receive this form one month in advance of the qualifying exam (see Part III for Committee Membership). The examination should not take place until your final Program of Study has been completed and approved by GPC.
- c. **"Application for Advancement to Candidacy"** - Following successful completion of the qualifying exam, the student will obtain a copy of this form and submit it to the Chair of the Dissertation Committee (the student's Major Professor) who will sign and return the form to the student. On this form the student, in consultation with his/her Major Professor suggests the membership of the Dissertation Committee (see section on Committee Membership). The student submits the form to the Graduate Coordinator, who confirms that the Program of Study and Qualifying Examination have been completed. The Graduate Coordinator will then submit form to the Graduate Advisor for review and approval. The Graduate Coordinator then sends the application on to Graduate Studies. A \$90.00 validation fee from the student is required to process the form before the Graduate Adviser signs the form.
- d. **"Graduate Student Study List"** – This form is required to be completed quarterly by all students enrolling in letter-graded coursework, approved by their Major Professor or GPC area group advisor, before the 10th day of instruction and filed with the Graduate Coordinator.
- e. **"Graduate Student Annual Progress Report"** – This form is due annually for all students. The student initiates this report and then passes it to their Major Professor for a signature and then it is forwarded to the Graduate Coordinator.

Transfer from Masters to Doctoral Program

Students whose degree objective is M.S. Plan I or Plan II may petition to change their degree objective to Ph.D. The request for continuation into the Doctoral program is

initiated by filing a "Petition for Change of Degree Objective" form and a departmental form. These forms are available from the Graduate Coordinator. Approval (and subsequent signature) of the Graduate Adviser will be given without further consultation with faculty within the student's group if four of the following five criteria are satisfied:

1. Undergraduate GPA > 3.2.
2. Graduate GPA > 3.5.
3. Quantitative GRE score greater than 75th percentile.
4. Positive recommendation from the student's M.S. degree Major Professor.
5. Positive recommendation from the faculty member in the CEE department graduate program likely to be advising the student in doctoral work.

This change in degree objective becomes effective with the completion of the master's degree. As a Master's student, if you have any inclination to pursue Doctoral studies, speak to your Major Professor or the Graduate Adviser about preparing a Program of Study.

Doctoral Degree Program Timeline

The expectation is that full-time students in the doctoral program will broadly adhere to the following timeline:

Action Item	Quarter
Select a Major Professor	1
Submit Graduate Student Study List	1, 2, 3
Select Program of Study Committee	1
Submit Graduate Student Annual Progress Report	3, 6, 9, 12, 15
Submit preliminary Program of Study	2
Establish Dissertation Committee	3
Submit final Program of Study	6
Submit Application for Qualifying Exam	6
Take initial Qualifying Exam	6
Retake Qualifying Exam (if necessary)	9
Submit Application for Advancement to Candidacy	6, 9
File Dissertation and Present Exit Seminar	15

PREPARATION OF M.S. PLAN I THESIS, M.S. PLAN II REPORT, OR PH.D. DISSERTATION

Consult with the Graduate Studies Office on the required format for M.S. Plan I thesis or Doctoral dissertation. Formatting of M.S. Plan II report is at the discretion of the Major Professor. The Department does not permit the use of staff time or equipment for the word processing or photocopying of thesis, report, or dissertation, unless all costs are

covered through research grants or by the student. Computers and printers available in the CEE graduate student lab are for research- or course-related work. A copy of the thesis or dissertation must be submitted to Graduate Studies and all members of your Thesis/Dissertation Committee. A copy of the M.S. Plan II report must be submitted their Major Professor and to the members of their comprehensive examination committee (student is not required to submit a copy to Graduate Studies).

III. COMMITTEE MEMBERSHIP AND RESPONSIBILITIES

MEMBERSHIP OF ADVANCED DEGREE COMMITTEES

The student, in consultation with the Major Professor and the Graduate Adviser, nominates three faculty to serve on the thesis committee. The Major Professor serves as the Chair of the thesis committee and must be a member of the CEE graduate program. The Graduate Adviser nominates the committee to the Office of Graduate Studies for formal appointment in accordance with Graduate Council policy.

Only members of the Academic Senate or the CEE Graduate Program have automatic eligibility to serve as members of advanced degree committees. Only members of the CEE Graduate Program have automatic eligibility to serve as Chairs of advanced degree committees. Members of the Academic Senate who are not members of the CEE Graduate Program can seek exception to serve as Chair of an advanced degree committee; the petition can be obtained from the Graduate Coordinator. Individuals who are not members of the Academic Senate or the CEE Graduate Program can serve on advanced degree committees with written recommendation from the student and approval by the Graduate Adviser and Graduate Studies; petition forms can be obtained from the Graduate Coordinator. Nomination of an individual who is not a member of the Academic Senate or the CEE Graduate Program to serve as the chairperson of an advanced degree committee is approved by the GPC only in the most exceptional circumstances. The current membership of the CEE Graduate Program is listed in Appendix A.

RESPONSIBILITIES OF COMMITTEES FOR MASTERS STUDENTS

For M.S. Plan I students, a three-person thesis committee must approve and sign the thesis. For M.S. Plan II students, a three-person committee administers the Comprehensive Examination. The three-person committee shall be composed of at least two members of the CEE Graduate Group; the third member can be either a member of the CEE Graduate Group or the Academic Senate. If the third member of the committee is not a member of the CEE Graduate Group or the Academic Senate, a request for an external committee membership (available from the Graduate Coordinator) must be completed and approved by the Graduate Advisor. If the student wishes to have two people outside the CEE Graduate Group on their committee, a four person committee can be established. Exceptions to committee membership laid out above will be reviewed and approved by the Graduate Program Committee on a case-by-case basis.

The M.S. Plan I Thesis Committee ensures that the quality of the thesis is appropriate for the degree. The thesis is more research oriented (though not necessarily an original contribution to knowledge) than the M.S. Plan II report.

For M.S. Plan II students, the Comprehensive Examination Committee examines the candidate on: (1) his or her general engineering knowledge as it particularly applies to the report, and (2) the content of the report. The Comprehensive Exam can be based solely on an evaluation of the material in the report, or may include an additional or presentation and/or exam. Upon completion of the Comprehensive Examination, the Chair of the Committee must notify the Graduate Coordinator, indicating the following:

- a) when the student took the exam,
- b) the members on the committee, and
- c) the recommendation to pass or not pass.

RESPONSIBILITIES OF COMMITTEES FOR DOCTORAL STUDENTS

Doctoral students need three committees: the Program of Study (or Guidance) Committee (three persons), the Qualifying Examination Committee (five persons), and the Dissertation Committee (three or more persons).

Program of Study Committee

In consultation with the Major Professor, Ph.D. students are expected to select a Program of Study Committee. The committee should be composed of three faculty members from the CEE Graduate Group. The committee will assist the student in the following manner:

1. The Committee reviews the student's Master's degree work and subsequent performance in course-work during the first quarter after completion of the Master's degree. (If the student has obtained the Master's degree at some other institution, the review should be conducted during the first quarter of residence at Davis.) The Committee may solicit comments from other faculty members.
2. The Committee guides the student in the preparation of a Program of Study (See Section II).
3. The Committee advises the student on selection of members of the Qualifying Examination Committee.

Ph.D. Qualifying Examination Committee

A five-person committee composed of three or four people knowledgeable in the candidate's major, and one or two persons knowledgeable in the minor(s) shall be constituted subject to the following constraints:

- The Chair of a student's Dissertation Committee cannot be the Chair of the student's Qualifying Examination Committee.
- At least three members of each Qualifying Examination Committee must be members of the CEE Graduate Group.

- At least one person on each Qualifying Examination Committee shall not be a member of the CEE Graduate Group.

Upon completion of the Qualifying Examination, the committee chair indicates the results on the "Report on Qualifying Examination for Admission to Candidacy for the Degree Doctor of Philosophy" form, and returns it to the Graduate Coordinator, who then sends it to Graduate Studies. Upon successful completion of the Qualifying Examination, the student receives an "Application for Candidacy for the Degree of Doctor of Philosophy." The Chair of the Qualifying Examination signs the form, and the student completes the application, pays the fee, and then returns it to the Graduate Coordinator for processing.

Dissertation Committee - Plan B

The CEE Graduate Program subscribes to Plan B Doctoral Dissertation Plan as specified by the Office of Graduate Studies for composition and duties of the Dissertation Committee. A committee of three (or more) members shall guide the student in his or her research and shall pass upon the merits of the dissertation. The Major Professor of the student is usually the chair of this committee. The other members are selected based on their interest and involvement in the student's research. The Dissertation Committee shall be composed of at least two members of the CEE Graduate Group; the third member can be either a member of the CEE Graduate Group or the Academic Senate. If the third member of the Committee is not a member of the CEE Graduate Group or the Academic Senate, a request for an external committee membership (available from the Graduate Coordinator) must be completed and approved by the Graduate Advisor. If the student wishes to have two people outside the CEE Graduate Group on their Committee, a four person committee can be established. Exceptions to Committee membership laid out above will be reviewed and approved by the Graduate Program Committee on a case-by-case basis. This Committee provides guidance to the student in formulating and carrying out a Doctoral research project. A dissertation must be reviewed and approved (via signatures) by all members of this Committee. All PhD students are required to present an exit seminar during the quarter the student submits the dissertation to the committee or during their last quarter at UCD. The student will provide the Major Professor with the seminar title, date, time and location of the seminar. An abstract of the seminar is to be posted on the Department's web and circulated via all appropriate email lists. Announcement shall be made at least one week before the seminar. Satisfaction of this requirement shall be verified by the chair of the dissertation committee.

IV. FUNDING, FEE, AND TUITION POLICIES

ESTABLISHING CALIFORNIA RESIDENCY

Domestic nonresident students must establish evidence of intent to become a California resident as soon as possible through the Office of the Registrar. No US citizen or Permanent Resident will receive a Nonresident Tuition Fellowship beyond the first three quarters of graduate study. <http://registrar.ucdavis.edu/html/slr.html>.

FELLOWSHIPS AND NONRESIDENT TUITION FELLOWSHIPS

Students are encouraged and responsible to take the initiative to investigate and apply for fellowships for which they are eligible. Many University Fellowships (highly competitive) are available for graduate study and all applications are due each year by January 15 unless otherwise indicated. There are three main forms that should be completed by all U.S. Citizens, permanent residents, and immigrants:

- *Fellowship application form - required for all fellowships*
- *Supplementary Fellowship Application Form - required for TOPS, Work-Study, and others*
- *FAFSA - required for TOPS, Work-Study, and many others*

Please complete all three forms even if you think you will not qualify. Applications for fellowships may be picked up from the Graduate Coordinator, completed and returned for consideration and review by the Admissions Committee and other appropriate members in the selection process. Fellowships include First Year Graduate Fellowships, GOF (Graduate Opportunity Fellowships), TOPS Fellowships, and Block Grant Stipends or Nonresident Tuition Fee Fellowships. For information on fellowships that are available through the Department, see the Graduate Coordinator. For other available fellowships, consult with the Office of Graduate Studies located at 250 Mrak Hall and <http://gradstudies.ucdavis.edu/support/studsup.htm>.

NONRESIDENT TUITION EXEMPTION FOR PH.D. STUDENTS WHO HAVE ADVANCED TO CANDIDACY

Nonresident Tuition (NRT) will be waived for Ph.D. students who have successfully completed the qualifying examination and advanced to candidacy. To be eligible for the NRT exemption in a given quarter, a Ph.D. student must have advanced to candidacy prior to the first day of that quarter. Qualified students are exempt from NRT for three years after advancement to candidacy. Any students who have not completed their doctorate after the three-year period and who remain enrolled students, will be charged the **full** nonresident tuition in effect at that time.

GRADUATE STUDENT RESEARCHERS (GSR)

Graduate Student Researcher positions are awarded from research projects with available funding by individual faculty members. The research project typically forms the basis of the student's thesis. Normally, GSRs are expected to work 10 hours/week for a 25% appointment or 20 hours/week for a 49% appointment during the academic year. Full-time appointments during the summer are possible if funding is available and at the approval of the Principal Investigator. Appointment as a GSR at 25% or greater, entitles the student to a fee remission that covers all in-state fees and NRT, if applicable for each quarter that the student is employed. The minimum GPA requirement is 3.0.

WORK-STUDY GRADUATE STUDENT RESEARCHERS

Graduate Student Researcher support is also available for students under a federally funded Work-Study Program. This program offers funds partially subsidized by the federal government that substantially reduce the burden on a faculty member's research projects. Students must be a U.S. Citizen or Permanent Resident, have been on the

campus for two or more quarters, and have a demonstrated financial-need before they can participate in the Work-Study Program. Work-Study selections are coordinated between the individual faculty and the Department Chair. Students must demonstrate eligibility for the Work-Study Program by filing a FAFSA form (online). Eligible students will be notified of Work-Study appointments by the Graduate Coordinator.

TEACHING ASSISTANTS, READERS AND ASSOCIATE-INS

Teaching Assistant appointments are offered to exceptional students that show promise as classroom instructors. These appointments are made by the faculty with a limited number of offers made to potential new graduate students. Applications for Teaching Assistant position may be obtained from the Graduate Coordinator. The number of Teaching Assistant appointments available depends on the demand and/or courses offered during each Fall, Winter and Spring quarter. Teaching Assistants are needed in all areas of our graduate program and first consideration is given to continuing students. The University allocates funds for TA positions to the Department, so the number of Teaching Assistantships is limited. Some Teaching Assistants with three quarters of experience are sometimes appointed as an Associate-In Civil Engineering and may take full charge of a lower division course, and in some cases, with approval by the Committee on Courses and Graduate Studies may also take full charge of an upper division course. Funds for these appointments are limited. Teaching Assistants are appointed at either 25% or 50% appointments that entitle the student to a fee remission of their in-state fees for each quarter they are appointed as a TA. The minimum GPA requirement for Teaching Assistants is 3.0. All Teaching Assistants must enroll in a total of twelve units. The units must include ECI 390 and may also include ECI 290C and 299 research units. Readers appointments are 25% and selected on a quarterly basis based on class enrollment. The instructor of the course selects students to hold this position.

HYDROLOGIC ENGINEERING CENTER INTERSHIPS

The CEE Graduate Program and UC Davis Internship and Career Center has a longstanding agreement with the US Army Corps of Engineers Hydrologic Engineering Center (located in downtown Davis) to support several incoming graduate students with research interests compatible with HEC activities (e.g., water planning and management, hydraulics, hydrology, water quality, and information technology). Interns are selected as part of normal graduate recruiting, based on faculty nominations, and coordinated by the HEC Intern Faculty Coordinator and the Graduate Advisor. Internship appointments do not cover UC Davis fees or tuition, but typically include 50% salary during the academic year and 100% salary for the summer.

V. OTHER GRADUATE STUDENT POLICIES

ACADEMIC RESIDENCE REQUIREMENTS

Master's students are required to be registered as full-time students for a minimum of three academic quarters, and Doctoral students as full-time students for a minimum of six quarters. Two consecutive summer sessions may be counted as the equivalent of one

regular quarter for residence purposes, so long as at least two units are taken in each session.

FULL-TIME STATUS

Graduate Studies considers 12 units to be a minimum academic workload for full-time students. Students must enroll in at least 12 units (including 290C and 299) unless they are: (1) a first-quarter international student who last studied in a language other than English, or (2) officially designated as a part-time student. First quarter international students who last studied in a language other than English may seek the Graduate Adviser's approval to enroll in less than 12 units the first quarter of study at Davis.

PART-TIME STATUS

Part-time student status is available only for students who have full-time employment, health constraints, or family obligations. Part-time students may enroll in not more than six units of credit, including 290C and 299, during any quarter. Approved part-time students pay the full Registration Fee, the Health Insurance fee, Memorial Union fee, ASUCD fee, and one-half the Educational Fee. Applications for part-time status are available from the Graduate Coordinator.

PLANNED EDUCATIONAL LEAVE PROGRAM (PELP)

The Planned Educational Leave Program is designed to allow students to suspend their program of studies for good cause (i.e., illness, temporary departure from the University for employment or research away from campus, preparing for examinations if doing so at a distance from campus, financial problems, personal problems), leave the campus, and be guaranteed the right to return later to resume academic work with a minimum of procedural difficulty. PELP is recommended for those students who are certain of the quarter in which they plan to return and who plan to be away no longer than three quarters. If a student is not certain of the return date, it is suggested that the Readmission Application be used.

The minimum Planned Educational Leave is one full quarter; the maximum is three quarters. Readmission is guaranteed assuming the student resumes regular academic work at the agreed upon date and removes any holds that may have been placed on registration. Students who do not return at the agreed upon date and who do not officially extend their leave will be automatically withdrawn from the University. International Students should consult with SISS concerning VISA issues.

Students wishing to go on PELP are required to contact the Graduate Coordinator who will send the application via email and offer guidance on how PELP status impacts eligibility for University Services. Once the Graduate Adviser approves the PELP application, it will be forwarded to the Office of Graduate Studies for final approval. The e-mail chain will be sent to the Office of the Registrar and the student will be charged a \$70.00 fee. Applications for PELP should be filed by the first day of instruction for a full refund of any fees paid. Applications filed after the tenth day of instruction are usually not approved.

Students are ineligible for PELP if they are using University facilities to perform their research. A student on PELP shall not be eligible to receive normal University services except as follows:

- Placement and Student Employment Services
- Advising and Counseling
- Housing – check with Housing Office for stipulations
- Financial Aid – grants and other financial aid are discontinued for the period of leave, but financial aid counseling is available
- Optional Health Services - a student may purchase, at his or her own option, a Health card which will entitle him or her to full student health benefits
- Academic Credit – students on PELP are not eligible to enroll in concurrent courses on the Davis campus and shall not earn academic credit at Davis during the period of leave
- Employment – a student may only be employed on the Davis campus for one quarter while on PELP status.

FILING FEE OPTION

Filing fee status is designed for graduate students who have completed all degree requirements (course work, laboratory work, preparation of the thesis or dissertation, and have Advanced to Candidacy) and may not require an additional quarter in residence to prepare the final thesis or dissertation. In this case, a student is eligible to pay a reduced filing fee instead of registering as a regular student. Students on filing fee will make no demands upon faculty time other than the time involved in the final reading of theses or dissertations or in holding exit seminars.

A student will be allowed to stay on filing fee status for a maximum of one quarter. An extension to a second quarter is possible by submitting a time extension request with appropriate justification, but this is not automatic or guaranteed. It is expected that a student will graduate once the filing fee period has elapsed. Students on filing fee will be allowed one quarter of employment without request for exception: exceptions beyond this one quarter period are never granted.

Students on filing fee status are not eligible for the privileges accorded regularly enrolled students. In particular, students on filing fee status:

- May not make use of University educational facilities, such as office desk space, laboratories, computers or mailboxes, nor possess keys to University space
- Are not eligible for the services of the University Health Center or for University housing
- May not enroll in courses of any kind
- May not make use of faculty time except as noted above

Filing Fee Application

To apply for filing fee status, a student must submit the Filing Fee Application with the Major Professor's signature to the Graduate Coordinator. Accompanying this form must be the College of Engineering Supplemental Filing Fee form with signatures from all members of the committee stating they have received a draft of the thesis or dissertation. The student will need to pay a onetime filing fee at the Cashier's Office. The completed forms must be submitted to the Graduate Coordinator approximately two weeks prior to the first day of the quarter filing fee is to become effective. The Graduate Coordinator will distribute the filing fee forms and instructions on a quarterly basis.

SATISFACTORY/UNSATISFACTORY (S/U) GRADES

Master's students may not opt to take any courses on an S/U basis that are used to satisfy the course unit requirements given in Section II.1.a. Doctoral students may not opt to take any courses on an S/U basis that appear on their Program of Study.

The student may take courses in addition to those needed to satisfy degree or program requirements on an S/U grading basis as either a Master's or Doctoral degree student. However, in accordance with Graduate Council policy, they may take only one course per quarter on this basis. After advancing to Candidacy for the Ph.D. degree, students, with the approval of the Graduate Adviser, may take an unlimited number of courses on an S/U grade basis.

If the student wishes to be graded on a Satisfactory/Unsatisfactory basis in any course, they must file a petition for that course. These petitions must be approved by the Graduate Adviser and the Dean of Graduate Studies. If the student accumulates a combination of more than eight units of Incomplete and Unsatisfactory grades before Advancement to Candidacy, they will be placed on academic probation. If a student elects the S/U grading option, the student is assigned a letter grade by the instructor on the same basis as other students in the class (for e.g., in a graduate course, if a student earns a grade of B- or higher, an S is shown on the record; in an undergraduate course, if a student earns a grade of C- or higher, an S is shown on the record).

GUIDELINES FOR MINIMUM PERFORMANCE IN 299 COURSES

The number of hours that a student is expected to devote to 299 courses should not be less than three hours of research per week per unit of 299. Students enrolled in a 299 course must also enroll in one unit of ECI 290C and meet with the Major Professor regularly during the quarter. Modern research investigators usually need financial and other support for their research. To obtain this support, the investigator must be capable of writing research reports, status reports, and final reports. It is strongly recommended that our students be trained in these aspects of research. ECI 290C and 299 courses are a logical place for the students to receive this training. Each individual faculty member is assigned CRNs for these courses. These CRNs change every quarter and are available from the Graduate Coordinator.

COURSE CREDIT BY CONCURRENT ENROLLMENT, EXAMINATION, AND TRANSFER

Prior to admission into the CEE graduate program, a student may be authorized to take 12 units on a "concurrent" basis through University Extension. These units will be counted

toward a graduate degree if this student is eventually admitted into our graduate program. Courses taken on a “concurrent” basis after a student has been admitted for graduate study may not be used for degree credit.

Masters Programs

The sum of the units earned in “concurrent” extension courses, courses taken by "examination," and courses taken at other institutions, may not exceed twelve for a Master's program. Up to six 200 series course units that were taken in undergraduate status at UCD may be transferred into a Master's program, so long as they were not used to satisfy any requirements for the B.S. degree. Similarly, up to six course units taken outside the UC system and while in graduate standing, may be transferred into a Master's program.

Doctoral Programs

For the Program of Study for a Doctoral Candidate, the sum of the units earned in “concurrent” courses, and courses satisfied by “examination,” may not exceed twelve. Approval for all such courses must be sought in the form of a petition to Graduate Studies signed by the Graduate Adviser. **Acceptance is not automatic.** For students desiring credit through any of these avenues, they must have a written note of approval from their Major Professor.

ECI 290 - SEMINAR REQUIREMENTS

All Master's and Doctoral students should take the seminar course ECI 290 or its equivalent (as approved by the GPC) at least once. Waivers may be granted to students without taking ECI 290 whose advisors are able and willing to verify that the student has the equivalent (or better) critiqued public speaking experience and is competent in presentation skills. Waiver forms are available from the department's website and must be filed with the Graduate Coordinator before the start of the last quarter of residency. This course is not to be mistaken for ECI 290C. ECI 290 and ECI 290C are two different courses. Both are graded on a S/U basis.

ACADEMIC DISHONESTY

Academic work is concerned with developing students' own scholarly and professional capabilities and their respect for the work of others. Undisclosed collaborations, un-cited use of other's work, plagiarism, and other forms of academic dishonesty corrode development of professional and scholarly skills and demonstrate lack of respect for the works of others. Appropriately, faculty, students, the CEE program administration, and the UC Davis campus treat any such behavior with grave seriousness. Such cases are referred to Student Judicial Affairs (<http://sja.ucdavis.edu/index.htm>).

RESEARCH CONDUCTED AT OFF-CAMPUS LOCATIONS

Research for the thesis may be conducted at an on- or off-campus location provided that:

1. The planning, execution of the research, and resolution of the data are essentially an independent effort by the student.
2. Members of the thesis committee have access to the research area.

3. The results of the research may be published in full, and in unrestricted journals.
4. University patent policies are recognized.
5. The student is enrolled in a 299 course so that a faculty supervisor is formally appointed and budgetary credit can be obtained for (a) the faculty member's effort, (b) support by other University personnel, and (c) use of University facilities. No research involving the use of University facilities or supervision by faculty members is to be conducted by the student when he or she is not enrolled in a 299 course. Exceptions may be made for research conducted during the summer. After the research has been completed, and with the concurrence of the thesis committee, a student may write his or her thesis without enrolling in a 299 course. The thesis committee may require that the student give a defense of the research to establish that the research is completed.
6. All other policies regarding 299 courses apply.

GRADUATE STUDENT DESK SPACE

Students (& post-docs) needing desks should fill out an application form, which can be obtained from the Graduate Coordinator (Michelle Okada) or from the CEE web page.

The CEE department will attempt to provide a desk in a shared office for all of its graduate students but such provision is not guaranteed. Office and desk assignment will be made on the basis of a policy and priority scheme formulated in mid 2000, unless revised by the Graduate Program Committee. The policy is based on two guiding principles, which are:

- 1) Department Chair/Graduate Coordinator will be responsible for assigning all graduate student office space according to the priority scheme below using the information provided by the student and advisor on the completed desk request form.
- 2) Faculty members do not CONTROL or OWN office space. Faculty members with the most assigned space at the time when the Department moved into Engineering Unit III do not RETAIN these spaces for their students.

Priority for making desk assignments:

1. Funded postdoctoral researchers (non-student PGR level 5 or above) working with a CEE faculty member.
2. Ph.D. students who have advanced to candidacy
3. Ph.D. students who have not advanced to candidacy but have completed an M.S.
4. M.S. students who are TAs during a particular quarter
5. M.S. students employed as GSRs during a particular quarter
6. Unfunded M.S. students
7. Other employees needing a desk
8. Part time or CWO students

Notes on the priority system:

1. All of the offices will be considered as a group (Ghausi, Bainer and Academic Surge).
2. When all offices are assigned and there is still a demand, then we will begin asking students to share desks starting at the bottom of the list.
3. There will be no preference for particular groups (environment, water, etc.) for spaces in Ghausi vs. Bainer.

4. Graduate group students who have a CEE faculty member as a Major Professor have equal priority to CEE department students at the same level.
5. Whenever possible, students/postdocs working with an advisor who need common space (e.g., because of computational needs) will be kept together, but this will never override the priority scheme. (Note that all space belongs to the department and not to individual faculty or groups.)
6. Desk assignments are never permanent. A student may be asked to move to another location or lose a solo desk altogether if in the Department's best interests.
7. Students who are on PELP and filing fee are not entitled to a desk by University policy and will not be provided one.
8. Within a priority class, seniority determines who has priority (second year MS students receive higher priority than first year students).

PURCHASES WITH UNIVERSITY-CONTROLLED FUNDS

Please contact the purchasing staff in the CEE office before you purchase or agree to purchase anything with research or department funds. A purchase request must be submitted in advance of any purchase, with the appropriate signatures, before a purchase order is generated. Any purchase without the proper paperwork, is considered "unauthorized"* and you may be held responsible for the amount owed. Department policy is to allow a two day turnaround time for processing any purchase request. As per the UC Davis Policy and Procedure Manual 350-10:

*....."An "Unauthorized" purchase is a purchase, letter of intent to purchase, or request for scheduling in advance of an order that is made by a person who lacks the proper authorization to commit University-controlled funds. Unauthorized purchases are a violation of University Policy and the individual who purchases goods or services can be held responsible for payment of charges incurred."

ADMINISTRATIVE AND SUPPORT STAFF

A complete listing of the graduate program members and their research areas is provided at the end of the manual. The following is a list of key support personnel and their roles (Updated Fall 2014):

Lauren Worrell (530) 752-1441 Graduate Staff Advisor (Graduate Coordinator)

Brooke Noonan	(530) 752-1434	Chief Administrative Officer
Sharon Holgerson	(530) 752-5759	Financial Assistant/Accounting
Lisa Zaragoza	(530) 752-8755	Financial Assistant/Accounting
Jan Woltmon	(530) 752-6900	Fiscal and Administrative Assistant
Katie Anderson	(530) 752-0586	Reception, Textbook Orders, Room Reservations, Key Distribution, CRNs
Reina Smarkel	(530) 752-3425	Undergraduate Student Advising
Lisa Anderson	(530) 752-8948	Undergraduate Program Assistant
Dan Djalili	(530) 754-6421	Computer Technical Support
Bill Sluis	(530) 752-0589	Design of Lab Apparatus, Equipment Maintenance
Daret Kehlet	(530) 752-0589	Design of Lab Apparatus, Equipment Maintenance
Henry Calanchini	(530) 754-6411	Environmental Lab Management, Cylinder Orders

APPENDIX A (GRADUATE PROGRAM BYLAWS)

UNIVERSITY OF CALIFORNIA, DAVIS CIVIL AND ENVIRONMENTAL ENGINEERING BYLAWS

Administrative home: Department of Civil and Environmental Engineering

Revised and approved by graduate program on June 13, 2002

Approved by Graduate Council June 2002

Article I. Objective

The departmentally-based graduate program in Civil & Environmental Engineering ("Program") is organized to establish and administer a graduate program of instruction and research leading to graduate degrees in civil & environmental engineering in conformance with the regulations of the Office of Graduate Studies of the University of California, Davis.

Article II. Membership

1. Membership in the Program shall be limited to members of the Academic Senate and Adjunct Faculty associated with the Davis campus. Membership is based on disciplinary expertise and is independent of specific departmental appointment.
2. Membership in the Program shall include all faculty with Academic Senate appointments and Adjunct Faculty in the Department of Civil & Environmental Engineering (CEE). Expectations of members are set forth in section II.4 below. Review of these members is accomplished during the normal merit review process in the Department of CEE
3. Individuals included by Article II.1 but not Article II.2 may become members in the Program on a case-by-case basis as follows. Any Program member may nominate an individual to become a member of the Program. Nominees are limited to members of the Academic Senate or Adjunct faculty who (1) hold a Ph.D. or equivalent degree, (2) have the appropriate background and training and have done research in engineering or closely related areas, and (3) meet the expectations set forth in section II.4 below. The candidate will be evaluated by the Program members. The evaluation will be based on a wide range of relevant information including the candidate's qualifications, experience, and interests. In particular, participation in graduate student and post-doctoral training relevant to civil engineering will be considered. Program members will vote on the candidate's membership by a confidential ballot. Upon election as described under Article V, the new member will be sent a letter of invitation by the Program Chair and be considered a member only in the event of an affirmative reply in writing. This membership will be reviewed every 6 years by the GPC. Evaluation will be based on the criteria described in II.4 below. Members with positive reviews will be notified in writing and will be considered a re-appointed member only in the event of an affirmative reply in writing. Members may resign from the Program at any time by writing a letter of resignation to the Program Chair.
4. Membership expectations are as follows:
 - a. Have an active research program commensurate with the expectations of the University of California.

- b. Be willing to participate in the administration of the graduate program, e.g., by serving on Program administrative committees or as an administrative officer of the Program.
- c. Provide graduate level instruction and/or offer research instruction.
- d. Serve on guidance, thesis/dissertation and examination committees for graduate students in the Program.

Article III. Organization and Administration of the Program

1. The administration of the Program and its activities will be vested in a Graduate Program Committee (GPC) consisting of seven Program members. The membership of the GPC will include the Chair of CEE, a Vice Chair of CEE and one member drawn from each of the five major areas of study represented within CEE. The Vice Chair of CEE that is a member of GPC will serve as chair of GPC and Master Adviser of the Program.
2. The administrative home of this Program is CEE. The Chair of CEE, who is Chair of the Graduate Program as well, shall appoint the Program's GPC.
3. The principal responsibilities of the Graduate Program Committee (GPC) and the Chair of the program are the following:
 - a. The GPC is responsible for nominating candidates for Graduate Adviser to the Graduate Studies Associate Dean for Programs who will recommend nominees to the Chair of Graduate Council for appointment. The Master Adviser may be nominated to be the Graduate Adviser.
 - b. The members of the GPC will serve as area graduate coordinators for their respective areas.
 - c. The GPC will advise the Graduate Adviser on interpretation of policies described in the *Guidance Manual for Graduate Students and Their Advisors*, a document that reflects the advising system, student responsibilities, committee membership and responsibilities, and other policies relating to graduate student advising. Major changes to this manual may require action from the Program membership.
 - d. The GPC will act on issues associated with graduate admissions such as recruitment and admissions criteria. Members of the GPC make recommendations to the Graduate Adviser regarding admission decisions of applicants to their disciplinary area.
 - e. The GPC will make recommendations, as necessary, regarding requirements for graduate degrees and other programmatic proposals for consideration by members of the Program.
 - f. The GPC will make recommendations concerning disbursement of Block Grant support and work study to the Chair of the Program. The Chair of the Program may make the final decision or delegate this decision to the Chair of the GPC.
 - g. The GPC will make recommendations to the Chair of the Program regarding student fellowships. Based upon these recommendations, the Chair of the Program may make the final decision or delegate this decision authority to the Chair of the GPC.
 - h. The GPC will make recommendations to the Chair of the CEE department regarding selection of teaching assistants.
 - i. The GPC will review and approve the Programs of Study for doctoral students.
 - j. The GPC will review graduate program membership and bring membership issues to the attention of the graduate program members.
 - k. The GPC will review, edit, and maintain the *Guidance Manual for Graduate Students and Their Advisors* as necessary.

4. If a member of the Program has an unresolved disagreement with the Graduate Adviser over the interpretation of the CEE graduate program policies, then that Program member may appeal to the GPC for a clarification of policy. The seven-member GPC will review the appeal and vote on the policy interpretation if necessary. The majority vote of the GPC shall be binding in terms of policy interpretation. It will then be the responsibility of the Graduate Adviser to implement the policy and act accordingly.

Article IV. Composition of Degree Committees

1. The Graduate Adviser, in consultation with the student, the Major Professor and Program members, recommends appointment of members to serve on examination committees and to review and pass upon the merits of each doctoral dissertation and master's thesis. Final approval of the membership on these committees rests with the Chair of Graduate Council.
2. Program members, and only Program members, have the automatic right to serve as members or chairs on advanced degree committees. Non-members of the Program can serve as members or chairs on advanced degree committees upon written recommendation by the Graduate Adviser and approval by Graduate Studies as discussed in the Graduate Studies Handbook of the Office of Graduate Studies. The Chair of the qualifying examination committee may not also be the chair of the doctoral dissertation research committee.

Article V. Meetings and Voting

1. An annual meeting of the program will be held in the Spring Quarter of each year. The Chair may call meetings of the Program membership as needed. In all cases, a quorum for the purpose of voting, either via a meeting and/or via paper or electronic ballot, to modify bylaws or establish graduate program policy or elect membership must be greater than 50% of the non-emeriti and non-adjunct Program members. Passage of proposals requires approval by greater than 50% of the members who actually vote on the proposal.
2. Balloting can be done in a meeting of the Program and/or via paper or electronic communication. If via a meeting, notice of the meeting time, date, and location will be provided to Program members at least seven calendar days prior to the meeting. If via paper or electronic communication, at least seven calendar days will be allowed for expression of opinions about the proposal and acceptance of votes.
3. New and revised bylaws must be submitted to the Graduate Council for review and approval.

MEMBERS OF THE GRADUATE PROGRAM

CIVIL & ENVIRONMENTAL ENGINEERING UNIVERSITY OF CALIFORNIA, DAVIS

Last update - Fall 2014

DEPARTMENTAL MEMBERS

Cappa, Christopher	(Environ)
Darby, Jeannie L.	(Environ)
Kleeman, Michael	(Environ)
Loge, Frank	(Environ)
Lund, Jay R.	(Environ)
Modera, Mark	(Environ)
Wexler, Anthony	(Environ)
Wuertz, Stefan	(Environ)
Young, Thomas M.	(Environ)
Boulanger, Ross	(Geotech)
DeJong, Jason	(Geotech)
Jeremic, Boris	(Geotech)
Kutter, Bruce L.	(Geotech)
Bolander, John E.	(Struct)
Chai, Rob Y. H.	(Struct)
Cheng, Dawn (Lijuan)	(Struct)
Dafalias, Yannis F.	(Struct)
Kanvinde, Amit	(Struct)
Kunnath, Sashi	(Struct)
Loh, Kenneth	(Struct)
Rashid, Mark M.	(Struct)
Sukumar, N. (Suku)	(Struct)
Fan, Yue Yue	(Transp)
Harvey, John	(Transp/Geotech)
Jaller, Miguel	(Transp)
Kendall, Alissa	(Transp)
Niemeier, Deb A.	(Transp)
Sperling, Daniel	(Transp)
Zhang, Michael	(Transp)
Bombardelli, Fabian	(Water)
Ginn, Timothy R.	(Water)
Kavvas, M. Levent	(Water)
Schladow, S. Geoffrey	(Water/Environ)
Younis, Bassam A.	(Water)

EMERITI MEMBERS

Asano, Takashi	(Environ)
Chang, Daniel P.Y.	(Environ)
Schroeder, Edward D.	(Environ)
Tchobanoglous, George	(Environ)
Idriss, I. M.	(Geotech)
Herrmann, Leonard R.	(Struct)
Ramey, Melvin R.	(Struct)
Romstad, Karl M.	(Struct)
Taylor, Michael	(Struct)
Mokhtarian, Patricia L.	(Transp)
Larock, Bruce E.	(Water)
Marino, Miguel A.	(Water)

ADJUNCT MEMBERS

Abrahamson, Norm	(Geotech)
Maroney, Brian	(Struct)
Lucia, Patrick	(Geotech)

NON-DEPARTMENTAL MEMBERS

Handy, Susan	(Transp)
Ogden, Joan	(Transp)