Civil Engineering
Graduate Student Handbook
2018-2019

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Welcome to the Graduate Program in Civil Engineering at UC Irvine

This handbook is designed to help you navigate through your graduate career and provide useful resources. The first year of graduate school can seem very difficult at times, but we have a good track record of graduating highly successful students. Many students have found additional resources on campus that have helped them throughout their graduate studies. I will remind you that if you feel stressed, there are free campus resources available to you at the Counseling Center (949) 824-6457.


Russell Detwiler
Associate Professor of Civil & Environmental Engineering
CE Program Graduate Advisor

Department of Civil & Environmental Engineering (CEE) Key Personnel

Professor Sunny Jiang: Department Chair (E4150 Engineering Gateway)

Professor Amir AghaKouchak: Graduate Advisor for CE-Hydrology/Water Resources (5404 Engineering Hall)

Professor Russell Detwiler: CE Program Graduate Advisor (844C Engineering Tower)

Professor Jay Jayakrishnan: Graduate Advisor for CE-Transportation Systems (4055 AIRB)

Professor Farzin Zareian: Graduate Advisor for CE-Structures (E4141 Engineering Gateway)

Lorrie Aguirre: Department Manager (E4130 Engineering Gateway)

Sergio Carnalla: Laboratories Manager (148B ELF)

Nancy Carter: Payroll & Personnel Coordinator (E4130 Engineering Gateway): Assists with TA, Grader, and GSR appointments

April Heath: Graduate Coordinator (E4130 Engineering Gateway): Advises graduate students regarding enrollment and registration procedures; degree process; and general Department, School and University policies and procedures.

Kylie Springsteen: Department Operations Analyst (E4130 Engineering Gateway): Assists with key requests, Seminars and Department Administration
Mailboxes for graduate students are located in E4128 Engineering Gateway. Note: Students in the transportation thrust area are assigned mailboxes in ITS. Desks are provided by research advisors for full time students conducting research. The CEE Department Study Lounge is located in AIRB 1010. Computer access is provided in various computer labs across the campus, including Engineering Hall and the Engineering trailer: [http://laptops.eng.uci.edu/computer-labs/locations](http://laptops.eng.uci.edu/computer-labs/locations).

The three CE thrust areas for both MS and Ph.D. are: Hydrology/Water Resources (Advisor: Prof. Amir AghaKouchak), Transportation Systems (Advisor: Prof. Jay Jayakrishnan), and Structures (Advisor: Prof. Farzin Zareian).

**MS Degree General Requirements:** Students entering the PhD program directly, but have not yet completed an MS, are required to earn an MS along the way to their PhD.

1. The Plan of Study for both the Thesis and Course Work options must be developed in consultation with the student's Faculty Advisor and approved by the CE Program Graduate Advisor by the end of the first quarter. Timely submission of the Plan of Study is necessary in order to receive email alerts regarding the graduation process and deadlines.
2. Discuss with your advisor early on whether the Thesis or Course Work option best suits your interests. Students in the MS/Ph.D. track may select either option. Students interested in the Thesis option are required to first identify a Faculty Advisor.
3. Advance to Candidacy **one quarter prior to graduating** (submit form to CEE Graduate Coordinator): [https://www.grad.uci.edu/forms/index.php](https://www.grad.uci.edu/forms/index.php). **Note:** The Department must receive forms at least two weeks prior to the campus deadline.
4. Complete the course requirements (see below under Options 1 & 2).
5. Submit the MS Exit Survey during your last quarter: [https://apps.grad.uci.edu/exitsurvey/](https://apps.grad.uci.edu/exitsurvey/)

**Department Policy on Reduced Fee Part-Time Study or Filing Fee Petitions:** As part of the approval process, your committee must review a draft of your thesis **prior** to the Program Graduate Advisor making a decision on your Part-Time or Filing Fee request. You will need to submit the petition and an electronic draft of your thesis to the Graduate Coordinator at least two weeks prior to the Campus deadline.

**Option 1: MS Degree with Thesis (original research with an advisor and a written MS thesis)**

- The Thesis option requires completion of 48 units of study (a maximum of ten of which can be taken for study in conjunction with the Thesis research topic).
- Of the 48 units, a minimum of 28 units must be in nonresearch, graduate-level approved engineering or related courses (numbered 200–289) with at least 16 of 28 units from the CEE Department.
- The remaining units may be earned as graduate-level course work, individual research, or upper-division undergraduate units (maximum ten units).

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1 Students must submit a General Petition (Option C) to count CEE 290, 291 or 298 units toward their degree. Please see the Graduate Coordinator for more information.
• The committee must be comprised of 3 members (including your advisor) with at least 2 faculty that hold a primary or joint appointment in the CEE Department. It is a requirement that all three committee members sign both the Plan of Study & MS Advancement to Candidacy forms. Please keep this in mind when preparing to submit the forms, as it may take additional time to get the original signatures.
• For final degree paperwork and instructions on submitting the Thesis please visit: https://www.grad.uci.edu/academics/degree-completion/index.php

Option 2: MS Degree with Course Work (also referred to as Comprehensive Exam Option)

• The course work option requires completion of 48 units of study, at least 40 of which must be in nonresearch graduate-level approved engineering or related courses (numbered 200–2891).
• Of the 40 units, a minimum of 28 units must be from the CEE Department.
• The remaining units may be earned as graduate-level course work, individual research, or upper-division undergraduate units (maximum ten units).
• The Department and SoE will resubmit your MS Advancement/Conferral form to the Graduate Division at the end of your last quarter.

Ph.D. Degree General Requirements: Students entering the PhD program directly, but have not yet completed an MS, are required to earn an MS along the way to their PhD.

Ph.D. students must maintain full time status each quarter throughout the duration of their program. A minimum of 12 units per quarter (Fall, Winter and Spring) is considered as full time. The following bullet points describe the basic information pertaining to our Ph.D. program.

• The detailed program of study for each Ph.D. student is formulated in consultation with a faculty advisor (a.k.a. the research advisor) who takes into consideration the objectives and preparation of the candidate. There are no specific course requirements. The School maintains specific guidelines that outline the milestones of a typical doctoral program:
  1. The Ph.D. Preliminary Exam is the first general exam on your path to a Ph.D. degree (see below).
  2. The Ph.D. Qualifying Exam (advancement to candidacy) is the second general exam on your path to a Ph.D. degree (see below).
  3. A written dissertation with an Oral Defense is the final exam on your path to a Ph.D. degree (see below).

Preliminary Exam

• All Ph.D. students are required to take the Preliminary Exam prior to the start of the 4th quarter of study.
• The Preliminary Exam is an oral or written exam where the student will be examined on a specified set of CEE graduate level courses or topics.
• Passage of the Preliminary Exam is required to remain in good standing and to be eligible for the Qualifying Exam. If the Preliminary Exam is not taken prior to the start of the 4th quarter, students will no longer be considered as making Satisfactory Progress (See page 22 of the Engineering Graduate Student Handbook).
Students must register at least 4 weeks prior to the examination date. You may obtain the Registration form from the Graduate Coordinator or at the following link: http://engineering.uci.edu/files/ce-preliminary-exam-nom-form-7-22-16.pdf

Students are responsible for coordinating the Exam date and time with their committee members, and making a room reservation with CEE Staff.

**Grading:** To pass the preliminary exam, the student must have the unanimous passing vote of the Exam Committee. If the student receives a no-pass decision from the Exam Committee, the student may petition to take the exam only one additional time. A successful petition requires the support of the student’s advisor and all members of the Exam Committee.

### Qualifying Exam

- The Qualifying Exam covers dissertation ideas and results of preliminary research.
- The committee must be comprised of 5 members with at least 3 faculty that hold a primary or joint appointment in the CEE Department, and at least 1 faculty member not affiliated with the CEE Department (outside member). Your research advisor will serve as the Chair of your exam committee.
- The Qualifying Exam is taken after passing the Preliminary Exam and typically by the end of the second year in the Ph.D. program. A written research proposal must be submitted to the committee members at least one week prior to the exam. The recommended format is a 15-page narrative (supplemental material may be included as an appendix).
- The exam will take 2-3 hours – your research presentation should be 40-50 minutes and reviewed by your advisor before your exam.
- Students must register for the Qualifying Exam at least 2 weeks prior to the examination date. You may obtain the Registration form from the Graduate Coordinator or online at: http://engineering.uci.edu/current/graduate/forms
- Students are responsible for coordinating the Exam date and time with their committee members, and making a room reservation with CEE Staff.
- Submit approved Ph.D. Form I to the CEE Graduate Coordinator after successful completion of the exam.
- Pay a $90 Advancement to Candidacy fee at the UCI’s Cashier’s Office.
- Submit Ph.D. Form I to Graduate Division in 120 Aldrich Hall.

### I. Research Proposal

The Research Proposal must be reviewed and signed off by your research advisor before it is distributed to the other committee members. The Research Proposal must be distributed to the committee members at least one week prior to the scheduled Oral Presentation. The Proposal should use Times New Roman 11 or 12 point font or equivalent, and be 1.5 line or double-spaced. A suggested outline follows.

1) **Title Page**: Title, Name of Student, Degree Program, Date, Advisor's Name and Advisor’s Signature.

2) **Abstract Page**: Approximately 200 word Summary – include the new information/new understanding that the dissertation will provide.
3) **Introduction:** Rationale for this research, engineering context, why important, what key questions will be answered.

4) **Research Hypotheses and Objectives:** List of the major research accomplishments to be completed during the course of the dissertation research. Typically, 3-5 in number.

5) **Background:** Summaries of prior published research key and relevant papers should be discussed to demonstrate a knowledge of the current state of the field.

6) **Preliminary Results:** Summary work to date, including interpretation of data obtained by the Ph.D. candidate. Include figures, graphs, and tables and the development of any models.

7) **Proposed Research:** Thorough exposition of the experiments/modeling/theory/computation the student plans to complete and how these will provide critical information for the dissertation and be an original, significant contribution to the research field.

8) **Timeline:** Provide an estimated timeline of when different experimental tasks will be completed.

9) **Summary:** of fundamental contributions expected from this research.

10) **References:** Authors name, full title of articles, journal name, volume, page, year.

The typical Research Proposal is 15-pages, including Figures and Tables. Document length does not necessarily correlate with quality. While it is likely that the research plan will evolve as the research progresses, the proposed research plan presented in the Qualifying Examination should be comprehensive and commensurate with the general expectations for the Ph.D. This document will serve as the basis for the Ph.D. dissertation, and will save time later when writing the dissertation.

**Ph.D. Oral Defense**

- A 45-60 minute oral presentation that summarizes your major research findings is required at the completion of your Ph.D. dissertation.
- The committee must be comprised of 3 members with at least 2 faculty that hold a primary or joint appointment in the CEE Department. Your research advisor will serve as the Chair on your exam committee.
- The oral exam will involve questions from the committee. The committee may request a closed session for their questions.
- It will be best if the written dissertation has been approved by the committee prior to the exam.
- Please confirm the composition of your committee with the Graduate Coordinator at least two weeks prior to your exam.
- Students are responsible for coordinating the Exam date and time with their committee members, and making a room reservation with CEE Staff.
Note: CEE Department faculty members, graduate students and visitors are invited to attend. Please contact the Graduate Coordinator at least two weeks prior to your exam to finalize the announcement.

- Submit Dissertation to Library Archives
- Submit Ph.D. Form II to Graduate Coordinator after successful completion of your exam.

**Dissertation**
- Copies of dissertations are available in the UCI library. Formatting guidelines are available at: [https://etd.lib.uci.edu/electronic/tdmanuale](https://etd.lib.uci.edu/electronic/tdmanuale)
- Students must submit an electronic copy to the Department (email pdf to Grad Coordinator).

**Department Policy on Reduced Fee Part-Time Study or Filing Fee Petitions:** As part of the approval process, your committee must review a draft of your dissertation prior to the Program Graduate Advisor making a decision on your Part-Time or Filing Fee request. You will need to submit the petition and an electronic draft of your dissertation to the Graduate Coordinator at least two weeks prior to the Campus deadline.

**Advisors**

MS students taking the Course Work option do not need an advisor other than the thrust area graduate advisor. MS students selecting the Thesis option should select an advisor as soon as possible. Ph.D. and MS/Ph.D. students should match with a research advisor during the first quarter of study to remain in good standing in the program. A list of CEE faculty can be found at: [http://www.eng.uci.edu/dept/cee/faculty](http://www.eng.uci.edu/dept/cee/faculty). Ph.D. students must submit the Faculty Research Advisor Verification Form by the end of the first quarter.

**Advisor Termination Policy:**
A faculty member who wishes to terminate his/her advising role must provide at least two months notice to the student to allow for him/her to make arrangements for finding a new adviser. In extreme cases (as determined by the CEE Graduate Committee), faculty can terminate their advising role effective immediately and the program graduate advisor will assume the role of the advisor for that student. If this termination of advisor/advisee relationship results in termination of funding for the student, then the CEE Graduate Committee will make all efforts to use CEE Departmental resources to continue the same level of support for the two-month period in which the student is identifying a new advisor. We recommend that feedback be given to students on a regular basis (at least twice a year) via the Engineering PhD Student/Advisor Progress Review form to minimize the frequency of such cases.

**Means of Support**
- All support is given competitively, and based on continuous good standing
- Department Fellowships (usually awarded to new students for recruitment)
- GSR – Research Assistantships, funded from faculty research grants
- Hours worked are in ADDITION to units earned for research credit
- All U.S. citizens & Permanent Residents must fill out the FAFSA each year in order to be eligible for funding, due March 2nd: [http://www.fafsa.ed.gov](http://www.fafsa.ed.gov)
- Additional funding information can be found at: [https://www.grad.uci.edu/funding/index.php](https://www.grad.uci.edu/funding/index.php) and [http://engineering.uci.edu/dept/cee/graduate/financial-support](http://engineering.uci.edu/dept/cee/graduate/financial-support)
What do Teaching Assistants and Graders Do?

- TAs grade homework and tests, run demonstrations, hold office hours, lead discussions, maintain class websites, maintain records of grades, and run labs.
- Graders grade homework and tests and can also hold office hours.
- Students are selected based on faculty nominations, match with course material, past experience, etc.
- All students must complete the TA Professional Development Program in order to be eligible to TA (training session once per year in early September).
- Additional information on TA Academic Qualifications can be found at: http://ap.uci.edu/ase/teaching-assistant/#TA

What are the Language requirements for international students who want to serve as a TA?

- International and U.S. Permanent Resident graduate students who are not citizens of countries where English is either the primary or dominant language, as approved by the UCI Graduate Council, must pass one of the following English Proficiency exams in order to qualify to serve as a TA:
  
  - A TOEFL iBT score of 26 or higher on the speaking component, or a score of 8 in the speaking component of the IELTS.
  - UCI SPEAK Exam: Minimum score of 50 for passing: http://www.humanities.uci.edu/hirc/speak/
  - UCI TOEP Exam: Minimum score of 5 for passing: http://www.humanities.uci.edu/esl/toep/

- Classes offered through ESL can help prepare graduate students for these exams and improve communication skills. Please visit the following link for more information: http://www.humanities.uci.edu/esl/graduate/index.php

What grades do I need to have to maintain good standing?

- Students must have a 3.0 GPA minimum with no grades below a B to remain in good standing. MS/Ph.D. and Ph.D. students are generally expected to achieve GPAs greater than 3.5. Students must receive a B or higher in a course in order for it to count toward their degree requirements. You need to have a GPA higher than 3.2 for certain types of fellowships, and a GPA higher than 3.1 for any TA position.

- P/NP Grade Option – no courses graded “Pass” are to be included as part of the advanced degree program, nor are they to be considered as satisfying academic criteria for fellowships and academic appointments/employment.

- Satisfactory/Unsatisfactory (S/U) - A grade of Satisfactory (S) is equivalent to a grade of B (3.0) or better. No credit is given for a course in which a grade of Unsatisfactory (U) was assigned. You cannot self-elect S/U grading. The S/U grading is assigned by the instructor and may be assigned to all participants in a graduate course. Similarly, with the consent of the academic unit involved, individual study and research or other individual graduate work may be evaluated by means of the grades Satisfactory or Unsatisfactory.
**Course Repetition** - Courses in which a grade below a B, or a grade of U, was received may be repeated only once. Only the most recently earned grades will be used in computing the student’s grade point average for the first eight (8) units of repeated graduate course work. Thereafter, both the earlier and later grades are averaged.

**NOTE:** When registering, your options listed include "grade" or "P/NP" only. Students taking graduate courses that offer an S/U option, and who wish to elect the S/U option, should select the "grade" option, and then make the necessary arrangements with the instructor. It is at the discretion of each individual faculty member to choose whether to utilize the letter scale (A, B, etc.) or the Satisfactory/Unsatisfactory (S, U) system when assigning grades for research classes.

It is very important that you discuss this option with your instructor. Do not assume the instructor will remember this option at the end of the quarter. Please make arrangements for S/U grading well before grades are to be assigned. Moreover, grading is at the discretion of the adviser, including whether or not to approve your request for S/U grading.

**How to Reach the Graduate Advisor?**

- If your question involves paperwork or other administrative issues, please consult the CEE Graduate Coordinator, April Heath (or the HSSoE’s Graduate Student Affairs office: gradengr@uci.edu).
- The Thrust Area Graduate Advisor handles academic and research matters (Prof. AghaKouchak for Hydrology/Water Resources, Prof. Jayakrishnan for Transportation Systems, and Prof. Zareian for Structures). The CEE Graduate Coordinator handles administrative issues.
- If you have an academic issue to discuss, contact your Graduate Advisor of your thrust area first via email to describe the issue and arrange for an appointment.

**What should I do if I want to change my research advisor?**

- Inform the graduate advisor of your thrust area.
- Meet with your research advisor – if unable to do so, ask the graduate advisor of your thrust area to speak with your advisor.
- Discuss with other faculty in the department about research projects.
- If you have been fully supported financially by your research advisor on a GSR, you can be required to finish up a project component (requiring no more than one extra quarter), before you can switch advisors.
- Ph.D. and M.S./Ph.D. students who want to change their research advisor must find and successfully match with a new advisor at the latest one quarter (Summer quarter not included) after they stop working with their previous advisor, or will no longer remain in good standing in the program.
- Once matched with a new advisor, students must submit a new Ph.D. Faculty Research Advisor Verification form to the Graduate Coordinator.
Can I switch to another degree program at UCI if I find my interests are better matched by another degree program?

Yes, you can apply to other degree programs at UCI. However, if you are accepted and decide to change your degree program, you cannot apply for readmission to the CE program after the start of the next academic quarter in your new degree program. All financial support from the department will be terminated if you change degree programs in midyear.

Questions?

**CE Graduate Coordinator**
Ms. April Heath
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E4130 Engineering Gateway

**SoE Assistant Director, Graduate Student Affairs**
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**CE Graduate Advisor – Fall 2018**
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**CE Graduate Advisor – Winter & Spring 2019**
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