Soph & Junior Advising
Civil & Environmental Engineering
Winter 2020 for 2019-2020 AY
Professor M. G. McNally
Professor Diego Rosso

Some Definitions
- CEE: Civil and Environmental Engineering
- HSSOE: Henry Samueli School of Engineering
- BSCE: Bachelor of Science in Civil Engineering
- BSEnE: Bachelor of Science in Environmental Engineering
- Faculty Advising: An advising meeting with a faculty member
- Faculty Advisor Cohort: a designated group of faculty members who serve as your faculty advisors during your program
- UG Program Advisor: a faculty member who manages the program
- HSSOE Counselors: school staff that help you develop and complete your academic program
- ABET: accreditation organization for our engineering programs

Soph & Junior Advising Process
- Annual: Faculty advising complements other forms of advising (HSSOE Counselors, Peer Advising, Professional mentors)
- Advisors: Each entering class will keep the same group of faculty advisors throughout the degree program
- Format: Faculty Advising is Mandatory — either:
  - Group Advising: sessions for Freshmen in the Fall and separate sessions for Sophomores and for Juniors in the Winter
  - Individual Advising: select a faculty member by name, teaching and research area, or session format
  - Make-up Procedure
- Students are recommended to see a faculty advisor regularly.
- Penalty: Registration Hold (not a good thing!)

BS Degree Programs
HSSOE Advising Requirements:
1. All students are required to meet annually with a faculty advisor for advising and mentoring.
2. All students are required to have an academic plan of study on file with the Student Affairs Office.
3. Students who do not have a plan on file, or deviate from this plan without approval from an academic counselor will be subject to probation. Students on probation for two consecutive quarters who do not have a plan on file, or deviate from this plan without approval from an academic counselor will be subject to disqualification. Students who fail to meet with a faculty advisor each year will be subject to disqualification.
Advising FAQs

FAQs: CEE Faculty Advising Process [2019-2020]

Why What When How Where Who Other Problems Contacts

- E-mail Notices on the Faculty Advising Process
  Your official UCI email serves as the only communication path from the Department of Civil and Environmental Engineering regarding the mandatory Faculty Advising Process, as well as other program matters. You are solely responsible for regularly checking your UCI email and responding as appropriate. No other media options are currently used.

- Why Do We Have Faculty Advising for Undergraduates?
  The advising process was implemented for several practical reasons. Our program requirements evolve so regular meetings with students are the best way to provide information on current programs and planned changes. In this regard, faculty advising complements but does not replace annual meetings with Samuel School of Engineering (SSOE) advisors to develop a Plan of Study. The faculty advising process also provides an opportunity for students to discuss a broad range of issues with program faculty, whether involving degree issues, specialization choices, career opportunities, or even professional practice. It provides a good deal of potential opportunity at a very low cost.

- What is the CEE Faculty Advising Process?
  Many academic programs assign freshmen to advisors, faculty who will remain in that capacity as the student proceeds through the program. This fixed assignment is a benefit to many students who have questions throughout the year. We have chosen to assign freshmen to a group of faculty advisor, providing a fixed group of advisors for the same group of students over the entire time that they are in the degree program. Each advising cohort has a faculty member from each research area (structures, transportation, and environmental/ water). Your faculty advisor will continue to advise you as long as you are in our UG programs.

CEE Chair and UG Advisers

Dr. Jiang, Chair
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Environmental
CEE 160
sjiang@uci.edu

Dr. McNally, CE UG Program Advisor
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Transportation
CEE 123
mmcnally@uci.edu

Dr. Rosso, EnE UG Program Advisor
ET 844F
Environmental
CEE163, CEE165
bidui@uci.edu

Advisers: Freshmen 2019-20 (Class of 2023)

Dr. Zareian
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Structures
CEE150
zareian@uci.edu

Dr. Saphores
AIRB 4028
Transportation
CEE111
saphores@uci.edu

Dr. Hyland
AIRB 4022
Transportation
CEE110
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Dr. Detwiler
ET 716E
Water/Environmental
CEE171, CEE172
detwiler@uci.edu

Dr. Lanning
EG 4167
Structures
CEE155, CEE181
bsanders@uci.edu

Dr. Adeyeye
ET 516F
Environmental
CEE162
adeyemimadeyele@uci.edu

Advisers: Sophomore 2019-20 (Class of 2022)

Dr. Aghakouchak
ET 506A
Water/Environmental
CEE81B, CEE173
amir.a@uci.edu

Dr. Ritchie
AIRB 4014
Transportation
CEE121, CEE124
sritchie@uci.edu

Dr. Li
EG 4145
Structures
CEE30
Mo.li@uci.edu

Dr. Sanders
Calit2 3415
Water/Environmental
CEE 170
bsanders@uci.edu
Advisers: Juniors 2019-20 (Class of 2021)

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AIRB 4055
Transportation
CEE 81A
rajakri@uci.edu

Dr. Hsu
EH 5320
Water Resources
CEE 176
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Dr. Lemnitzer
EG 4149
Geotech / Structures
CEE130, CEE156
lemnitzer@uci.edu

Dr. Recker
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Transportation
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wrecker@uci.edu

Dr. Qomi
EG 4151
Structures
CEE 151a
mjag@uci.edu

Dr. Vrugt
ET 844E
Water / Systems
CEE 20
jasper@uci.edu
On leave 2019-20

Advisers: Seniors 2019-20 (Class of 2020)

Dr. Sorooshian
EH 5308
Hydrologic Systems
CEE 176
soroosh@uci.edu

Dr. Davis
ET 544E
Water / Environmental
CEE 21, CEE 178
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Dr. Mosallam
EG 4167
Structures
CEE 151C
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Dr. Bannerjee
ET 844D
Water/Environ
CEE 11
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Dr. Jin
AIRB 4038
Transportation
CEE 122
wjin@uci.edu

Dr. Fofoula-Georgiou
EH 5428
Hydro/Geomorph
Asc Dean of Research
efi@uci.edu

ABET Program Assessment

1. Stakeholders: students, faculty, alumni, and employers
2. Program Educational Objectives: accomplishments of graduates expected by a few years after graduation
3. Student Learning Outcomes: knowledge and skills to be attained by the time of graduation
4. Course Outcomes (or Performance Criteria) are restatements of Program Outcomes that define specific knowledge and skills to be attained in a specific course
5. Degree Requirements comprise core, specialization, labs, General Ed, and a capstone design experience

ABET accreditation site visit was in Fall 2019.

CEE@UCI

CE Program Educational Objectives:

Describe the expected accomplishments of graduates during the first few years following graduation. Our graduates are expected to:

1. Establish a Civil Engineering career in industry, government, or academia and achieve professional licensure as appropriate.
2. Demonstrate excellence and innovation in engineering problem solving and design in a global and societal context.
3. Commit to lifelong learning and professional development to stay current in technology and contemporary issues.
4. Take on increasing levels of responsibility and leadership in technical and/or managerial roles.

Note: EnE PEOs are virtually identical

2019
CE and EnE Student Outcomes (ABET 1-7):
By graduation, students must have the ability to:
1. to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
2. to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
3. to communicate effectively with a range of audiences;
4. to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
5. to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
6. to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions;
7. to acquire and apply new knowledge as needed, using appropriate learning strategies.

Mathematics and Basic Science (48 units)
- Math2A-B-D-E, 3A-D
- Phys7C-D and 7LC-D, Chem 1A-B
- Science Elective (one BioSci or ESS course from GE2)
- Elective (two from Chem1LE, ENGR7A-B, LDEE)
  [LDEE is one of (ECE70A, Engr54, MAE80, MAE91)]

General Education Requirements (44+ units)
- Provides flexibility, overlaps encouraged, etc.
- Engineering Professional Topics include Econ 20A-B and CEE60 (or SocEcol 8E), E190W UD Writing

Course Outcomes

<table>
<thead>
<tr>
<th>Course</th>
<th>Mathematics and Basic Science (48 units)</th>
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<tbody>
<tr>
<td>Math2A-B-D-E, 3A-D</td>
<td>Phys7C-D and 7LC-D, Chem 1A-B</td>
</tr>
<tr>
<td>Science Elective (one BioSci or ESS course from GE2)</td>
<td>Elective (two from Chem1LE, ENGR7A-B, LDEE)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>General Education Requirements (44+ units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provides flexibility, overlaps encouraged, etc.</td>
<td>Engineering Professional Topics include Econ 20A-B and CEE60 (or SocEcol 8E), E190W UD Writing</td>
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### BSCE: Freshman

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<thead>
<tr>
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<th>Spring</th>
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<tbody>
<tr>
<td>Math 2A</td>
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<td>Math 2D</td>
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<td>Gen. Ed.</td>
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<td>Phys 7C, L</td>
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<td>Chem 1A</td>
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<td>Chem 1B</td>
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<td>Gen. Ed.</td>
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<td>Sci. Elect.</td>
</tr>
<tr>
<td>Engr 7A *</td>
<td>2-4</td>
<td>CEE 1LE</td>
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<tr>
<td>Or Engr 7B</td>
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<td>CEE 81A</td>
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</tbody>
</table>

* Science Elective: BioSci or ESS (NOT chemistry or physics)
* * Engr7A-B Option (Lower Division only)

### BSCE: Sophomore

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<thead>
<tr>
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<tbody>
<tr>
<td>Math 3A</td>
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<td>CEE 20</td>
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<tr>
<td>Engr 7A-B</td>
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* Gen Ed Recommendation: Econ 20A-B, CEE60
* LD Engr Elective: EECS70A, ENGR54, MAE80, MAE91

### BSCE: Junior

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<tr>
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<td>CEE 121</td>
<td>4</td>
<td>CEE 160</td>
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<tr>
<td>E190W</td>
<td>4 Gen. Ed.</td>
<td>4 Gen. Ed.</td>
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* Civil Engineering “core”; pre-requisites are important!

### BSCE: Senior

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<tr>
<th>Fall</th>
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<tbody>
<tr>
<td>CEE 181A</td>
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<tr>
<td>Gen. Ed.</td>
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<td>Gen. Ed.</td>
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* Engr Design Elective (eliminated in Fall 2018)
* Specialization Elective: flexibility with 4th course!
Specializations 1

**General Civil Engineering:**
Requires four (three) courses from CEE122 or CEE123; CEE149, CEE152, CEE151B, CEE155, or CEE156; CEE162, CEE163, CEE165, or CEE169; CEE172, CEE173, CEE176, or CEE178; or CEE55 or courses from an approved list.

**Environmental Hydrology & Water Resources:**
Requires four (three) courses from CEE163, 164, 165, 169, CEE172, 173, 176, or 178, or courses from an approved list.

2019-2020

Specializations 2

**Structural Engineering:**
Requires CEE155, and three (two) courses from CEE149, CEE151B, CEE152, CEE156, MAE157, or courses from an approved list.

**Transportation Systems Engineering:**
Requires CEE122 and CEE123, and two (one) courses from CEE124, CEE125, Engr189, EECS70A, or courses from an approved list.

*Note: 4th course may be any UD HSSOE technical elective*

2019-2020

Key Pre-requisites

**BS EnE Degree Program**

*Program Educational Objectives:*

*Describe the expected accomplishments of graduates during the first few years following graduation. Our graduates are expected to:*

1. Establish an Environmental Engineering career in industry, government, or academia and achieve professional licensure as appropriate.
2. Demonstrate excellence and innovation in engineering problem solving and design in a global and societal context.
3. Commit to lifelong learning and professional development to stay current in technology and contemporary issues.
4. Take on increasing levels of responsibility and leadership in technical and/or managerial roles.*

2019-2020
**EnE Course Requirements 1**

**Mathematics and Basic Science (68 units)**
- Math 2A-B-D-E, 3A-D, CEE11
- Phys 7C-D, 7LC-D
- Chem 1A-B-C, 1LC-D, 51A
- 4 units of Earth System Science and 4 units of Biological Sciences *(a GE 2 course in each area)*

**General Education Requirements (44+ units)**
- Engineering Professional Topics Courses include:
  - Economics 20A-B and CEE60 *(or Soc Ecol E8)*
  - E190W for Upper Division Writing

2019-2020

**EnE Course Requirements 2**

**Engineering Topics Courses (78+ units):**
- LD Core: CEE 20, 21, 30, 81A, 81B, MAE91
- UD Core: CEE 110, 130, 130L, 150, 150L, 160, 162, 170
- Engr Sci Elective (Engr7A-B, EECS70A, Engr54, MAE80)
- Senior Design Practicum: CEE 181A-B-C
- Engineering Electives (2 from 2 areas/1 from other):
  - Water Supply and Resources (CEE171, 172, 173, 176, 178, ESS132)
  - Environmental Processes (CEE163, 165, 167)
  - Atmos Systems & Air Poll Control (MAE110, 115, 164, ESS 112)
- Fall 2020: Must include one of CEE 165, CEE 172, or CEE 178
- Fall 2020: Minimum grade of C- in CEE30 to take CEE150
- A nominal total of 191 units
- Must verify Program of Study and unit counts with UG Office

2019-2020

**BS EnE: Freshman**

<table>
<thead>
<tr>
<th>Fall</th>
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<tbody>
<tr>
<td>Math 2A</td>
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<td>Math 2B 4</td>
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<td>Phys 7C, L 5</td>
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</table>

- Gen Ed Recommendation: WR39B-C or CEE60
- * Engr 7A-B option in F/W for lower division only
- 52 units

2019-2020

**BS EnE: Sophomore**

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<th>Fall</th>
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<tbody>
<tr>
<td>Math 3A</td>
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<td>CEE 20</td>
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<td>CEE 30</td>
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<td>LDEE 4</td>
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<td>Chem 51A, Chem 1LD</td>
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<td>Gen Ed. 16</td>
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- Gen Ed Recommendation: CEE60
- LD Engr Elect: Engr 7A-B, ENGR54, MAE80, etc.
- 51 units

2019-2020
### BS EnE: Junior

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<tr>
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- Science Electives: 1 each in Bio Sci and Earth Systems Sci
- At least one Engr Elect from 165, 172, or 178
- 50 units

### BS EnE: Senior

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<tr>
<th></th>
<th>Fall</th>
<th>Winter</th>
<th>Spring</th>
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<tr>
<td>CEE 181A</td>
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<td>Eng. Elect.</td>
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- Spread Gen Ed (include Econ 20A-B, UD Writing)
- Consider pre-requisites for Science and Engineering Electives
- 38 units (nominal total units = 191)

### General Education Requirements

1. General Education requirements:
   - Writing (3 courses: 2 LD and 1 UD)
   - Arts and Humanities (3 courses)
   - Social and Behavioral Sciences (CE/EnE reqs.)
   - Multicultural Studies / International Issues (1)
2. BSCE and BSEnE already cover:
   - Science and Technology
   - Quantitative, Symbolic, Computational Reasoning
3. Need to consult with HSSoE counselors

### HSSOE UG Office

http://undergraduate.eng.uci.edu

CEE@UCI
Civil and Environmental Engineering offers annual scholarship opportunities for qualified undergraduate students:

- Emeriti Scholarships, supported by the UCI CEE Affiliates:
  - Jan Scherfig Scholarship: for freshmen returning in the fall
  - Gary Guymon Scholarship: for sophomores returning in the fall
  - Robin Shepherd Scholarship: for juniors returning in the fall

- Huit Zollars Civil Engineering Scholarship:

Applications for the $1,000 scholarships are submitted online in Winter Quarter (check your UCI email!)

Other HSSOE and UCI Scholarships:
http://www.ofas.uci.edu/content/Scholarships.aspx

Civil and Environmental Engineering is perhaps at the pinnacle of the practice of, and the need for, ethical behavior.

At you progress through the program, any form of cheating has reduced benefit (on grades) and increased cost (of not finishing your degree).

The UCI Policy on Academic Honesty is defined at:
http://www.senate.uci.edu/senateweb/default2.asp?active_page_id=754

Take note of the descriptions of cheating, dishonest conduct, plagiarism, and collusion.

Ask your instructors to discuss course policies on Academic Honesty, including policies on joint work on HW, labs, or other required tasks.

Full details are posted on-line at: http://honesty.uci.edu/

Professional Registration

1. Profession Registration: licensure as a professional engineer is required to practice as a civil or environmental engineer.

2. Steps Toward Licensure: First…
   a. Complete a BS from an accredited institution (UCI!)
   b. Successfully complete the Fundamentals of Engineering (FE) exam (material covered includes physics, chemistry, thermo, circuits, mathematics, statics & dynamics, engineering economics, fluids, engineering ethics, strength of materials, computers, etc.)

3. Steps Toward Licensure: Then…
   a. After 2 years of work under professional engineers …
   b. … soon 30 units of post-graduate continuing education
   c. Successfully pass the Principles and Practice of Engineering (PE)
   d. http://www.ncees.org/exams/professional/
Summary

1. Academic Honesty…
2. Faculty Advising, HSSOE Counselors
3. ABET evaluations versus UCI course evaluations
4. Petitions: substitutions, variations, and related issues
5. Student Clubs? [ G-E-T  I-N-V-O-L-V-E-D ]
6. Research Opportunities, Internships, Jobs
7. Careers: Graduate School? (GRE)
8. Careers: Professional Practice (FE, PE)

Contact Information

HSSOE UG Affairs Office:
1. UG Counselors in REC 305 (824-4334)
2. Web site: http://undergraduate.eng.uci.edu/

Civil & Environmental Engineering:
1. Department Office in EG 4130 (824-5333)
2. CEE web site: http://www.eng.uci.edu/dept/cee/
3. CE Advisor: Professor McNally <mmcnally@uci.edu>
4. EnE Advisor: Professor Rosso <bidui@uci.edu>

UCI General Catalogue: Your contract with UC
http://www.editor.uci.edu/catalogue/engr/engr.6.htm