Soph & Junior Advising
Civil & Environmental Engineering
Winter 2017 for 2016-2017 AY
Professor M. G. McNally
Professor Diego Rosso

Soph & Junior Advising Process

• Faculty advising complements other forms of advising:
  – HSSOE Counselors, Peer Advising, Professional mentors
• Annual Process: every year!
• Format: Each entering class will keep the same group of
  faculty advisors throughout the degree program
• Mandatory Process:
  – Group Advising: sessions forFreshmen 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 (sign-up on-line)
• Sophs & Juniors are recommended to see a faculty advisor
  often, but must see an advisor following Group Advising.
• Penalty: Registration Hold (not a good thing!)

INDIVIDUAL ADVISING

• All sophs & Juniors schedule an appointment with a designated faculty advisor this quarter.

You will receive an email with a web link to select an advisor. Your advisor will then email you with available advising slots scheduled over the next few weeks...

FAQs: http://www.its.uci.edu/~mmcnally/FAQ-advising.html

• Individual advising will be either individual or small group sessions:
  – After selecting an advisor, you will be able to schedule an appointment in winter quarter.
  – You must fulfill the individual requirement or a hold will be placed on next quarter’s registration.

Advising FAQs

FAQ: CEE Faculty Advising Process [2015-2016]

FAQs: http://www.its.uci.edu/~mmcnally/FAQ-advising.html

Advisers: Sophs 2016-17 (Class of 2019)

Dr. Farzin Zareian
EG 4141
Structures
CEE155, CEE155
ejzarei@uci.edu

Dr. Russ Detwiler
ET 7168
Water/Environ
CEE171, CEE172
detwiler@uci.edu

Dr. Ritchie
AIRB 4014
Transportation
CEE121, CEE124

Dr. Saphores
AIRB 4014
Transportation
CEE111, CEE122
saphores@uci.edu

Dr. Jiang
ET 7168
Env. Water Quality
CEE 160, CEE 159
jiang@uci.edu

Advisers: Juniors 2016-17 (Class of 2018)

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

Dr. Betty Olson
ET 844
Water/Environmental
CEE50
bholson@uci.edu

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

Dr. Lizhi Sun
EG 4139
Structures
CEE 30, CEE 152
lsun@uci.edu

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

Dr. Lizhi Sun
EG 4139
Structures
CEE 30, CEE 152
lsun@uci.edu
**Structural Engineering Faculty**

- Dr. Sun 
  EG 4139 
  Mechanics, Composites 
  CEE 30, CEE 152

- Dr. Zareian 
  EG 4141 
  Earthquake Engr 
  CEE 150

- Dr. Qomi 
  EG 4151 
  Structures, Materials 
  CEE 151A

- Dr. Mosallam 
  EG 4149 
  Composite Structures 
  CEE 151C, ASCE

- Dr. Lemnitzer 
  EG 4149 
  Geotechnical 
  CEE150, CEE150

- Dr. Lu 
  EG 4149 
  Structures

**Hydrology & Water Resources Faculty**

- Dr. Detwiler, ET 844C 
  Groundwater Hydrology 
  CEE 171, CEE 172

- Dr. Sanders, ET 844D 
  Computational Hydrodynamics 
  CEE 170

- Dr. Sorooshian, EH 5308 
  Hydrologic Systems 
  CEE 176

- Dr. Viugl, ET 844E 
  Systems Modeling 
  CEE 20

- Dr. Aghakouchak, ET 506A 
  Remote Sensing 
  CEE91b, CEE 173

- Dr. Hsu, EH 5320 
  Hydrologic Modeling 
  CEE30

**Water (cont’d.)**

- Dr. Davis, ET 544E 
  Coastal Engineering 
  CEE 20, CEE 178

- Dr. Cooper, ET 305 
  Environmental Chemistry 
  CEE 162

- Dr. Jiang, ET 714E 
  Water Quality 
  CEE 165, CEE 169

- Dr. Grant, ET 944D 
  Environmental Engr 
  CEE11

- Dr. Rosso, ET 844F 
  Environmental Processes 
  CEE163, CEE 165

- Dr. Olson, ET 844 
  Environmental Microbiology 
  CEE 60

**Environmental Faculty**

- Dr. Cooper, ET 305 
  Environmental Chemistry 
  CEE 162

- Dr. Jiang, ET 714E 
  Water Quality 
  CEE 165, CEE 169

- Dr. Olson, ET 844 
  Environmental Microbiology 
  CEE 60

- Dr. Grant, ET 944D 
  Environmental Engr 
  CEE11

- Dr. Rosso, ET 844F 
  Environmental Processes 
  CEE163, CEE 165

- Dr. Olson, ET 844 
  Environmental Microbiology 
  CEE 60

**Transportation Systems Engineering**

- Dr. Jay, AIRB 4055 
  Transport Systems Anlys 
  CEE 81a

- Dr. Jin, AIRB 4038 
  Traffic Flow, ITS 
  CEE 110

- Dr. McNally, AIRB 4048 
  Travel Behavior & Modeling 
  CEE123, CEE181abc

- Dr. Recker, AIRB 4074 
  Transport Systems Anlys 
  CEE 111, Engr169

- Dr. Ritchie, AIRB 4014 
  ITS, Emerging Technology 
  CEE121, CEE124

- Dr. Saphores, AIRB 4028 
  Transport Planning & Policy 
  CEE 111, CEE122

**Soph & Junior Issues**

- **Academic Program:**
  - Specializations and Electives
  - Senior Design
- **Grades and pre-requisites… letter grades!**
- **Student Clubs & Professional Associations**
- **E-Week:** February 2017 – Get Involved
- **ASCE PSWC Student Conference:** April 6th - 8th 2017 at UCI

**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
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

CE and EnE Student Learning Outcomes:
Describe what students are expected to know or be able to do by graduation (a-k)

a. An ability to apply knowledge of mathematics, science, and engineering.
b. An ability to design and conduct experiments, as well as to analyze and interpret data
c. An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
d. An ability to function on multidisciplinary teams
e. An ability to identify, formulate, and solve engineering problems

f. An understanding of professional and ethical responsibility
g. An ability to communicate effectively
h. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
i. A recognition of the need for, and an ability to engage in life-long learning
j. A knowledge of contemporary issues
k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

CE and EnE Student Learning Outcomes (continued)

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 list)
- Elective (two from Chem1LE, ENGR7A-B, LDEE)
  [LDEE is one of (EECS70A, Engr54, MAE80, MAE91)]

General Education Requirements (44+ units)
- Provides flexibility, overlaps encouraged, etc.
- Engineering Professional Topics include Econ 20A-B and CEE60 (or SocEcon 88), E190W UD Writing

CE Course Requirements 1

CE Course Requirements 2

Engineering Topics Courses (77 units):
- LD Core: CEE 11, 20, 21, 30, 81A-B
- UD Core: CEE 110, 111, 121, 130, 130L, 150, 150L, 151A, 151C, 160, 170, and 171
- Elective (two from Chem1LE, ENGR7A-B, LDEE)
  [LDEE is one of (EECS70A, Engr54, MAE80, MAE91)]
- Engr Design Elective (one of 155, 172, 122 or 123)
  (No double counting!)
- Senior Design Practicum: CEE 181A-B-C

Specialization (16 units)
- Must complete senior design project in same area

Summary: A nominal total of 188 units (22+ design units)
BSCE: Freshman (effective 2015)

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

BSCE: Sophomore (effective 2015)

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* Gen Ed Recommendation: Econ 20A-B, ECE60
* LD Engr Elective: EECS70A, ENGR54, MAE80, MAE91

BSCE: Junior 2016-2017

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<td>CEE 121</td>
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<td>CEE 160</td>
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* Civil Engineering “core”; pre-requisites are important!

BSCE: Senior 2017-2018

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<td>Spec. Elec.</td>
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* Engr Design Elective (122, 123, 155, or 172) – quarter varies!
* Can not double count the EDE!
* 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, 165, 169, CEE172, 173, 176, or 178, or courses from an approved list.

Specializations 2

**Structural Engineering:**
Requires CEE155 (as the EDE) and four (three) 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, E189, EECS70A, or courses from an approved list.

Note: the 4th course is any UD HSSOE technical elective
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.

EnE Course Requirements 1

Mathematics and Basic Science (64 units)
- Math 2A-B-D-E, 3A-D
- Phys 7C-D, 7LC-D
- Chem 1A-B-C, 1LC-D, 51A
- 4 units of Earth System Science and 4 units of Biological Sciences (must choose from approved list)

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

EnE Course Requirements 2

Engineering Topics Courses (81+ units):
- LD Core: CEE 11, 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 (CEE165, 167)
  - Atmos Systems & Air Poll Control (MAE110, 115, 164, ESS112)
- A nominal total of 189 units
- Must verify Program of Study and unit counts with UG Office

BS EnE: Freshman 2014-2015

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* Gen Ed Recommendation: WR39B-C or CEE60
  EECS10 and CEE20 replaced by CEE21 in Fall ’13
  Engr 7A-B option in F/W for lower division only

BS EnE: Sophomore 2015-2016

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* Gen Ed Recommendation: CEE60
  Engr Science Elective: EECS70A, ENGR54, MAE80, etc.
BS EnE: Junior 2017-2018

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- Consider pre-requisites!
- Science Electives: 1 each in Bio Sci and Earth Systems Sci

BS EnE: Senior 2016-2017

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- Spread Gen Ed (include Econ 20A-B, UD Writing)
- Consider pre-requisites for Science and Engineering Electives

General Education Requirements

1. General Education requirements:
   - Writing (3 courses: 2 LD and 1 UD)
   - Arts and Humanities (3 courses)
   - Social and Behavioral Sciences (3 courses)
   - 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

Department Scholarships

Civil and Environmental Engineering offers annual scholarship opportunities for qualified undergraduate students:
- Emeriti Scholarships, supported by the UCI CEE Affiliates:
  - Jan Scherig 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

HSSOE UG Office

http://plaza.eng.uci.edu

CEE@UCI

CEE UG Programs

http://www.eng.uci.edu/dept/cee/

CEE@UCI
**Academic Honesty**

- 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/

**Education Abroad Program**

http://www.cie.uci.edu/

**Student Clubs**

**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)
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