Sophomore Advising
Civil & Environmental Engineering
Winter 2016 for 2015-2016 AY
Professor M. G. McNally
Professor Diego Rosso

INDIVIDUAL ADVISING FORM

• All sophomores must schedule an appointment with a sophomore 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

• Sophomore 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.

Advisers: Sophos 2015-16 (Class of 2018)

Dr. Amir Aghakouchak
ET 506A
Water/Environmental
CEE60B, CEE173
amir.a@uci.edu

Dr. Betty Olson
ET 844
Water/Environmental
CEE60
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Dr. Will Recker
AIRB 4074
Transportation
CEE 111
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Dr. Lihui Sun
EG 4139
Structures
CEE 30, CEE 152
lsun@uci.edu

Structural Engineering Faculty

Dr. Sun
EG 4139
Mech., Composite
CEE 30, CEE 152

Dr. Zawawi
EG 4149
Earthquake Engr
CEE 150

Dr. Qomi
EG 4151
Structures, Materials
CEE 151A

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

Dr. Lemaitre
EG 4149
Geotechnical
CEE130, CEE196

Dr. Li
EG 4149
Structures
Sophomore Issues

• Academic Program:
  – Engineering Science Elective & Engineering Design Elective
  – CEE60 versus SocEcol 8K
• Grades and pre-requisites … letter grades!
• Student Clubs & Professional Associations
• E-Week: February 2016 – Get Involved
• ASCE Student Conference:
  – This year: March 31st - April 2nd at CSULB
  – UCI will host in 2017 – volunteers needed!

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

Career in Civil & Environmental Engineering

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

PEOs

CEE@UCI
## 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 Course Requirements 1

### Mathematics and Basic Science (48 units)

- Math2A-B-D-E, 3A-D
- Phys7C-D and 7LC-D, Chem 1A-B, Chem 1LE
- Science Elective (one BioSci or ESS course from list)

### General Education Requirements (44+ units)

- Provides flexibility, overlaps encouraged, etc.
- Engineering Professional Topics Courses include Economics 20A-B and CEE60 (or SocEcol E8)
- E190W Upper Division Writing

## 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
- Engr Sci Elective (Engr7A-B, EEC70A, Engr54, MAE80, MAE91)
- Engr Design Elective (one of 155, 172, 122 or 123)
  - (No double counting!)
- Senior Design Practicum: CEE 181A-B-C

### Specialization or Concentration (16+ units)

- Must complete senior design project in same area

### Summary

- A nominal total of 187 units (22 + design units)

## BSCE: Freshman 2014-2015

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<th>Course</th>
<th>Fall</th>
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<td>Math 2A</td>
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<td>CEE 20</td>
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<td>Phys 7C, L</td>
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- Effective Fall 2013, Science Elective is BioSci or ESS
- Effective Fall 2013, EECS10 & CEE20 --> CEE20 & CEE21
- Engr 7A-B option in F/W for freshmen only

## CE and EnE Student Learning Outcomes (continued)

- 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.

Sample Course Syllabus & Outcomes

http://plaza.eng.uci.edu/course/outline/engrcee/

SLOs 2015

BSCE Degree Program
BSCE: Sophomore 2015-2016

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<tr>
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* Gen Ed Recommendation: Econ 20A-B, CEE60

* Engr Sci Elective: EECS70A, ENGR54, MAE80, MAE91

* CEE81A is a pre-requisite for CEE81B

BSCE: Junior 2016-2017

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<td>CEE 150, L</td>
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* Civil Engineering “core”, pre-requisites are important!

BSCE: Senior 2017-2018

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<th>Fall</th>
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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

Key Pre-requisites

![Diagram of pre-requisites]

Note:
1. Math and science pre-reqs are not shown
2. For Pre-req (C), specific pre-req are not shown
3. For C, there are no CBB placement
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 (CEE71, 172, 173, 176, 178, ESS132)
  - Environmental Processes (CEE63, 165, 167)
  - Atmos Systems & Air Poll Control (MAE110, 115, 164, ESS 112)
- 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 CEE20 & CEE21 in Fall '13
- Engr 7A-B option in F/W for freshmen 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 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](http://www.ofas.uci.edu/content/Scholarships.aspx)

### 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=753](http://www.senate.uci.edu/senateweb/default2.asp?active_page_id=753)
- 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/](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/

Student Clubs

Education Abroad Program

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

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