

## **CHEE 295e (1 unit)**

### **Careers in Environmental Engineering**

Sophomore Colloquium  
Spring 2016

**Meeting time:** 3 pm - 3:50 pm

**Location:** Engineering, Rm 307

**Instructors:** Vicky Karanikola

Office location: 306 E

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**Course Website on D2L:** D2L will be used for posting the lecture schedule, hand-outs and assignments; <http://www.d2l.arizona.edu>

**Teaching Assistant:** N/A

**Office hours:** TBD. Office hours will be set during the initial class meeting based on student availability

**What is Environmental Engineering?** Environmental engineers use the principles of engineering, soil science, biology, and chemistry to develop solutions to environmental problems. They are involved in efforts to improve recycling, waste disposal, public health, and water and air pollution control. Environmental engineers are typically employed in both the public and private economic sectors. In serving the public, their role is to assist in developing and applying regulations that protect the environment and public health or in planning, operating and managing publicly owned infrastructure for environmental protection. In the private sector, engineers play a lead role in the design and construction of systems of unit operations for water purification, wastewater treatment and air pollution control that protects environmental and human health. Remediation of hazardous pollutants in soils and ground waters are also among the responsibilities of environmental engineers, including prevention of future pollution problems.

### **Overall course objectives and expected learning outcomes**

Objectives. The main course objective is to familiarize students with the possible careers in the environmental engineering field. The course is provided in colloquium style and designed to help students understand career opportunities for Environmental Engineers (EEN). Students will interact with invited speakers and explore various roles of EEN in solving real environmental engineering problems.

### Learning outcomes.

The course helps students become aware of the range of possible application areas in the discipline of environmental engineering. The course also seeks to prepare students professionally by encouraging them to pursue undergraduate research and internships as well as having them develop their *curriculum vitae*, and establish contacts with future employers.

Upon completion of the course, students will:

- have attained knowledge of contemporary issues.
- have attained a recognition of the need for, and an ability to engage in life-long learning.
- be able to make informed choices regarding selection of a focus area or specialty within the field of environmental engineering (e.g., hydraulics/hydrology or air pollution abatement).
- be able to make informed choices regarding their future plan of study in relation to their field of interest.
- be able to identify areas of application for the discipline of environmental engineering.

**Prerequisite(s):** none

**Textbook(s) and/or other materials:** Handouts by the instructor (No text is required). D2L will be the primary means of distributing class material.

### **Work Required:**

Attendance: Attendance for this course is required.

Speaker Summary Reports: Each time there is a speaker, the students will be requested to fill out a brief summary of the speaker's presentation. The students will be provided with a speaker summary report form to fill out with certain questions (available on D2L). The maximum word limit for each question will be provided next to each question. Each summary report is due one class period after it is assigned.

Field Trip Reports: Two field trips are going to take place during semester, the students will be requested to fill out a brief summary after the trip. The students will be provided with a field trip report form to fill out with certain questions (available on D2L). The maximum word limit for each question will be provided next to each question. Each field trip report is due one class period after it is assigned. The field trips are going to be on a Friday afternoon and the week that the field trip, will take place, the regular class will not occur the regular day and time.

Resume Assignment: Students will be asked to develop a professional resume (or update their previous resume) that can be used to search for a summer internship or pursue an undergraduate research position. The resume is due by **Friday February, 5<sup>th</sup>, 2016**.

I-Expo Report: Students are required to attend the I-Expo (**February 9<sup>th</sup>, 10:00 am**) and introduce themselves to a minimum of two companies. Prepare a report that summarizes the experience including: 1) identification of who you met (name, role); 2) summary of company; 3)

identification of any summer internship programs available; and, 4) any planned or expected follow-up.

Plan of Study: A plan of study that details the courses that you will take and the semester you will take them is required by **March 28<sup>th</sup>, 2016**. This plan should include possible technical electives. The plan can be revised in future semesters but is intended to be a good initial start. Briefly discuss why you selected the concentration courses and how these courses will build the necessary skills to become a successful Environmental Engineer.

Engineering Design Day Report: Students are required to attend Engineering Design Day (**May 3<sup>rd</sup>**) where the Senior Design Teams present their capstone design projects and compete for prizes. Prepare a report that summarizes the experience including team projects that you reviewed and observations about the projects. The report should include your opinion on projects that would have benefitted from an environmental engineer on the team. Reports are due by **Friday May 6<sup>th</sup>, 2016**.

Additional Reports: The subject of the reports is going to be based on selected lectures. Students will have to do some research and reading of current topics in environmental engineering and report the major points.

### **Grading Policies:**

| <b>Item</b>                 | <b>Percent Each</b> | <b>Percent All</b> |
|-----------------------------|---------------------|--------------------|
| Attendance (14 classes)     | 0.71%               | 10%                |
| Resume                      | 10%                 | 10%                |
| I-Expo Report               | 10%                 | 10%                |
| Plan of Study               | 10%                 | 10%                |
| Design Day Report           | 10%                 | 10%                |
| Speaker Summary Reports (3) | 10%                 | 30%                |
| Field Trip Reports (2)      | 5%                  | 10%                |
| Additional Reports (4)      | 2.5%                | 10%                |
| Total:                      |                     | 100%               |

**Grading scale:** A = 90-100%; B = 80-90%; C = 70-80%; D= 60-70%; E < 60%

### **Course Rules:**

- 1) Students are expected to attend lectures.
- 2) Treat speakers with respect and in a professional manner. **Do not arrive late to class** and give the speakers your attention (e.g. no texting, emailing, facebooking, etc.)
- 3) All holidays or special events observed by organized religions will be honored for those students who show affiliation with that particular religion; Absences pre-approved by the

UA Dean of Students (or Dean's designee) will be honored. Also absences due to medical or family emergencies will also be excused.

- 4) Cell phones, pagers, iPod's (iPads, Nano's, etc) and other electronic devices must be turned off before the start of class. If using such devices to take notes, please put switch to airplane mode.
- 5) Plagiarism is not allowed to any extent for writing assignments (reports). See: **Student Code of Academic Integrity**.
- 6) There is no tolerance for threatening behavior by students: See: **Threatening Behavior by Students** and **Disruptive Behavior in an Instructional Setting**.
- 7) It is the University's goal that learning experiences be as accessible as possible. If you anticipate or experience physical or academic barriers based on disability or pregnancy, please let the instructor know immediately so that options can be discussed. You are also welcome to contact Disability Resources (520-621-3268) to establish reasonable accommodations. Please be aware that the accessible table and chairs in this room should remain available for students who find that standard classroom seating is not usable.
- 8) The information contained in the syllabus (except grade and absence policies) may be subject to change with reasonable advance notice, as deemed appropriate by the instructor.