Chemical Engineering 391
Chemical Engineering Career Skills

Winter 2013
MF 12:00 PM, 393 CB

Professor: David O. Lignell, 350L CB, 422-1772 (davidlignell@byu.edu)
Office Hours: MWThF 11-12, T 10-11.

Goals:

1. To help students build career skills necessary for chemical engineers by providing training and experience in the following areas:
   a. Presentation of technical material
   b. Job interviews
   c. Resume writing
   d. Life-long learning
2. To gain familiarity with chemical processes and corresponding equipment by visiting a nearby industrial chemical engineering process.

Grading:

40% Presentations, evaluations
15% Resume
10% Field trip and corresponding report
10% Lifelong learning plan
12% Industrial seminar attendance
10% Attendance, participation, and punctuality
3% Course evaluation

Attendance:

Much of the learning in this course results from participating, observing, and analyzing the presentations given in class. Each student is, therefore, **required to be present at all student presentations.** Daily roll will be taken. I am separating the class into two sections during the second block to make a smaller class, so you will only have to attend once a week during that period.

One class period will be devoted to a field trip. The chemical engineering processes and equipment observed during this and other (AIChE-sponsored) field trips are considered vital to your education.

There is a career fair the last week of January. Participation is highly encouraged.

Participation:

Each student will give **two 15-minute seminars** on a chemical engineering topic. One of the seminars will be to simulate a talk at a technical meeting, and the other seminar will be for a business meeting. All presentations will be made using PowerPoint and a computer projector. Each presentation will be videotaped, and each presenter will critically review his or her presentation on an evaluation form. This evaluation must be performed within one week of the presentation. Students will be expected to **dress as professional engineers during their business presentations** (suits for the men, dresses or dressy pant suits for the women). In addition, **each student must fill out an evaluation form of other student speakers on presentation days**. There will be a moderator for each presentation, so that each student will be able to serve as a moderator as well. The class will be divided into two groups for the business presentations; you will only have to attend presentation days for your group. To simulate the business meeting, the audience will ask questions during the presentation instead of just at the end.

Seminar Topic:

Each seminar topic must be submitted to the instructor before the presentation date. The topic will be based on research or work the student has done or from an article which the student will select from a technical journal. It should not be a talk you have used for English 316. Web sites are convenient sources of information, but are sometimes inaccurate, so do appropriate additional research. The topic/presentation must contain enough technical content (mathematics, graphs, data, reasoning, etc.) and be sufficiently narrowly defined so that the presenter must do more than a simple qualitative overview of the subject.

Field Trip:
We will going on a field trip with details to be announced. Long pants and closed-toed shoes are required for this trip (for safety purposes). A short report afterward is required.

Industrial Speakers.
During the semester you are responsible to attend 3 different industrial seminars outside of class time. These must be given by a working or retired engineer and the speaker must discuss some aspect of their career choices and path. I recommend you satisfy this requirement by attending the monthly AIChE meetings and information sessions with recruiters. In addition, a presentation about graduate school will be given (this does not count as one of your 3 industrial seminars).

Course Evaluation
The online course evaluation and in-class ABET evaluation will be required of each student, and will count 3% of the grade.

Honor Code Standards
In keeping with the principles of the BYU Honor Code, students are expected to be honest in all of their academic work. Academic honesty means, most fundamentally, that any work you present as your own must in fact **be** your own work and not that of another. Violations of this principle may result in a failing grade in the course and additional disciplinary action by the university.

Students are also expected to adhere to the Dress and Grooming Standards. Adherence demonstrates respect for yourself and others and ensures an effective learning and working environment. It is the university's expectation, and my own expectation in class, that each student will abide by all Honor Code standards. Please call the Honor Code Office at 422-2847 if you have questions about those standards.

Preventing Sexual Discrimination or Harassment
Sexual discrimination or harassment (including student-to-student harassment) is prohibited both by the law and by Brigham Young University policy. If you feel you are being subjected to sexual discrimination or harassment, please bring your concerns to the professor. Alternatively, you may lodge a complaint with the Equal Employment Office (D-240C ASB) or with the Honor Code Office (4440).

Students with Disabilities
If you have a disability that may affect your performance in this course, you should get in touch with the office of Services for Students with Disabilities (1520 WSC). This office can evaluate your disability and assist the professor in arranging for reasonable accommodations.

Competencies for Ch En 391

Level 1 (introduction)

- Students will gain a familiarity with the chemical engineering field, career options, and potential job functions through student presentations and a field trip
- Students will understand the importance of a well-written resume in obtaining professional employment.
- Students will be able to use appropriate information skills, standard office applications, and tools (e.g. WWW, electronic and reference book library searches, modern property databases) to assist in problem solving.
- Students will demonstrate effective reading of technical material.
- Students will demonstrate experience and ability in interviewing skills.

Level 2 (assessed)

- Students will learn about chemical processes, units, and corresponding equipment through a field trip.
- Students will be able to give effective, well organized oral presentations of technical material in both business and engineering formats including the handling of questions and the use of appropriate visual aids.
- Students will be able to write an effective personal resume.
- Students will develop a sense of professional community with students, faculty, and others.
- Students will be dedicated to and prepared for a life time of learning.