Department and Course Number: ChE 119

Title: Current Events in Chemical Engineering

Total Units: 1 Course Designation: X Required Elective

Class/Laboratory Schedule:
One hour seminar per week. This course does not include laboratory experiments at the present time.

Current General Catalog Description:
Assigned readings in technical journals on current topics and events of interest to chemical engineers. Student groups present oral reports on reading assignments pertaining to new technologies, discoveries, industry challenges, society/government issues, professional and ethical responsibilities.

Prerequisites:
Chemical Engineering 110A-B

Textbook(s):
None.

Reference or Other Required Materials:
Each group of students has individual reading assignments from recent issues of technical journals, especially Chemical & Engineering News. The student presentations utilize Microsoft Powerpoint software.

Course Learning Outcomes (Short-term goals, i.e. skills that students should possess at the end of the course):

1. Increase student awareness of current issues and developments in chemical engineering involving industry, education, government, science and society.
2. Develop oral communication skills for making formal technical presentations.
Major Topics Covered (lecture and lab/discussion, with no. of hours for each topic):
The class is divided into student groups with 3-5 students in each group. During each seminar, Powerpoint presentations are made by four student groups. The presentations are based on assigned reading from recent issues of technical journals, usually Chemical & Engineering News. The reading assignments pertain to new technologies, discoveries, industry challenges, society/government issues, and professional and ethical responsibilities. At the end of each class, each student submits a brief critique/summary for each presentation, using a standard evaluation form.

Contribution of Course to Meeting Requirements of Criterion 5: Curriculum, and the AIChE Program Criteria:
This course contributes to the Engineering Sciences component of Item (b) of Criterion 5, Engineering Sciences and Engineering Design. It also contributes to this aspect of the AIChE Program Criteria.

Relationship of Course to the Program Outcomes:

<table>
<thead>
<tr>
<th>Course Objectives</th>
<th>Relevant to which ChE Program Outcomes</th>
<th>Course activity</th>
<th>Material to be collected to verify course objective or program outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2</td>
<td>P06 P05</td>
<td>Reading assignments Presentations and critiques</td>
<td>Student self-evaluations Student self-evaluations</td>
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Chemical Engineering Department Program Outcomes:

Upon graduation, graduates of the ChE program at UCSB are expected to have:

PO1.  [Fundamentals] the fundamental knowledge of mathematics, computing, science, and engineering needed to practice chemical engineering and the ability to apply this knowledge to identify, formulate, and solve chemical engineering problems.

PO2.  [Laboratory] the ability to design and conduct experiments and to analyze and interpret data.

PO3.  [Design] the ability to design a system, component, or process to meet desired specifications. Ability to use modern engineering tools necessary for chemical engineering practice.

PO4.  [Advanced Training] education beyond the basic fundamentals in at least one area of chemical engineering or science as preparation for a continuing process of lifelong learning.

PO5.  [Teamwork/Communication] the ability to function productively in multidisciplinary teams working towards common goals; the ability to communicate effectively through written reports and oral presentations.
PO6. [Engineering & Society] the broad education necessary to understand the impact of engineering solutions in a global/societal context; a knowledge of contemporary issues; an understanding of professional and ethical responsibility; a recognition of the need for and the ability to engage in lifelong learning.

Prepared by: Professor Dale Seborg

Date: 5/12/08