UEC Charge 2010/11

[Radke (chair), Bell, Tullman-Ercek]

J. Reimer charge, Fall 2010

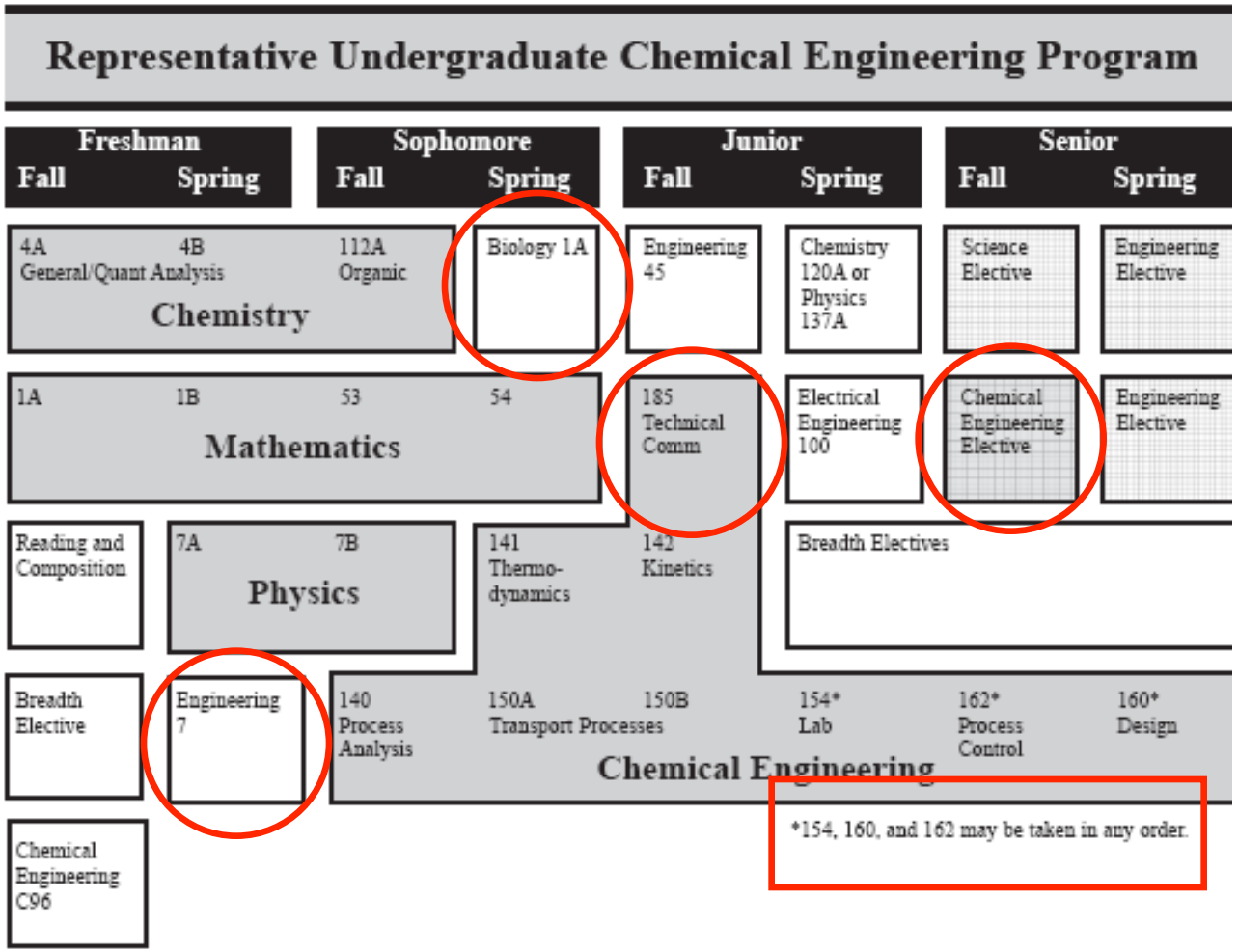
Oversee and improve curriculum (no specific charges)

1. Information
   A. Update of CoC Bulletin (over enrollment in 154/160/162, Bio 1A, Eng 7, CBE 185).
   B. Changes to advising (adviser control numbers).
   C. Review of discussion on cheating.
   D. Student feedback (aiche,honors).
   E. Update on CBE 154 improvements.
   F. Misc announcements.

2. 2012 ABET Evaluation (Reimer & Ciston)

1A: CoC Guide

- CoC now puts together the guide and, for now, will continue to supply them to faculty.



1A: CoC Guide

1. CBE 185 is now required (for entering freshmen, and strongly recommended for all students).

2. Eng 7 is moved to the freshmen year.

3. CBE 154, 160, & 162 should be taken in any order (faculty should enforce prerequisites)

4. Bio 1A moved to sophomore year (lower division). It is now a prerequisite for CBE 170A.

5. CBE 180 (ChE Economics, Schoofs) is now formally in curriculum.

1B: New Advising Procedures

- Starting this fall, students will no longer routinely see staff advisers.

- Faculty will handout adviser codes. 4-digit codes will be listed in the supplied form of student advisee names. If a 2-digit code is listed, this student has been flagged as needing also to visit with a staff adviser. Faculty gives the 2 digits to the student, with the staff adviser giving the remaining digits.

- Students can still see staff adviser if they so wish.

- Late students can see staff advisers as now.

- 3 volunteers for CalSO advising.

1C: Faculty Discussion on Cheating (03/16/11)

Student cheating remains a bane

- Some “best” practices suggested were

1. Reminder at beginning of course of professional expectations.

2. Vigilance (staying one step ahead or not falling too far behind)

3. No regrades

4. Inclusion of topic in CBE 300

1D: Student Feedback

- As part of ABET process, UEC meets with AIChE students every fall semester and honor students every spring semester, and reports to faculty.

AIChE Students (11/01/10)

1. 154 is too difficult. Not sure what is expected. Lack of clarity in grading, Need more guidelines on written reports. Inconsistency of grading and expectations of faculty.
2. Some students get little to no faculty advising.
3. Bio 1A seems to be in conflict with other courses.
4. Can there be an economics option?
5. No night courses !

Honor Students (04/19/11)

1. Math 53/54 has too few odes and pdes.
2. Bio 1A is irrelevant as a senior.
3. 154 is too rushed. Need more time on experiments, especially COMSOL. Need guidelines on written reports.
4. Would like opportunity to take more breadth courses.
5. C96 is not helpful.

1E: CBE 154 Improvements

- A duplicate apparatus is now available for
  - Viscometry
  - Water evaporation
  - Heat transfer

- The N_2 Permeameter is installed and working well (the write up is well received)

- The Chevron proposal for a new distillation column and PFR remains stalled

- Installation of a desalination R/O unit is under consideration

1F Announcements

- Per faculty endorsement, Matlab is now the required programming course for transfer students
- Bio 1A is now required of transfer students
- Professors Bell and Segalman have been charged to pioneer an undergraduate course on energy.

2: ABET Evaluation

Reminder of faculty responsibilities

1. At beginning of semester, instruct GSI's to complete the program-outcome form during the semester.

2. At semester end, hand out student-outcome forms

3. Complete faculty-assesment form

ABET Cycle Timeline

• Prior to Jan 2012	Collect and analyze data
• Jan 2012	Submit Request for Evaluation
• Jan 2012-June 2012	Prepare Self Study report
• July 1 2012	Self Study report deadline
• Sept-Dec 2012	Evaluators visit campus
• Dec 2012-Feb 2013	Draft statement sent to us
• Feb-Apr 2013	We respond
• July 2013	Commissioners decide status
• Aug 2013	We are notified of decision

http://www.abet.org/deadline.shtml

Data for Self Study

- Instructor Assessment of Course Objectives
- Student Evaluation of Course Outcomes
- Program Outcome Assessment Templates (GSI reports)
- Student Course Evaluations
- Senior Exit Surveys
- University of California Undergrad Experience Surveys
- Honors Tea
- AIChE Tea
- Faculty Ideas and Input

Revised Form Emphasizes Improvement

INSTRUCTOR ASSESSMENT OF COURSE OBJECTIVES

Course:	Chm Eng 140	Instructor:	Prof. E. Iglesia	Semester:	Fall '11

Course Objectives:

- how to analyze experimental data and subsequent equation representations by dimensional consistency and by preparing linear expressions;
- how to set control volumes and perform steady-state and transient mass and element balances for complex chemical processes both with and without multiple chemical reactions;
- how to estimate and apply degrees of freedom in reacting and non-reacting systems;
- the contrasting behavior of continuous stirred tank, batch, and plug-flow reactors;
- the criteria for chemical reaction and phase equilibria and how to apply those;
- criteria to equilibrium conversion and phase-separation behavior;
- the concept of an equilibrium stage and its role in separation processes;
- the concepts of energy, work, heat, and heat transfer in open and closed systems in the context of the first law of thermodynamics;
- how to set control volumes and perform steady-state and transient energy balances for simple processes with and without chemical reactions;
- how to solve simultaneous linear and/or nonlinear algebraic equations numerically;
- using Newton iteration and simultaneous non-linear ordinary differential equations;
- using Runge-Kutta methods.

Rate the degree to which the stated course objectives were met (1: not at all, 5: fully). Please circle one.

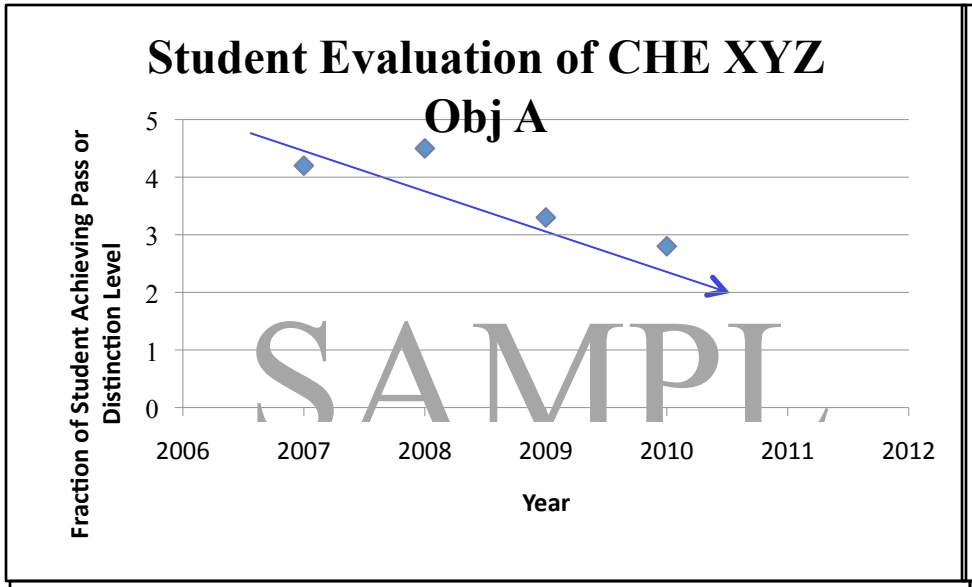
1 2 3 4 5

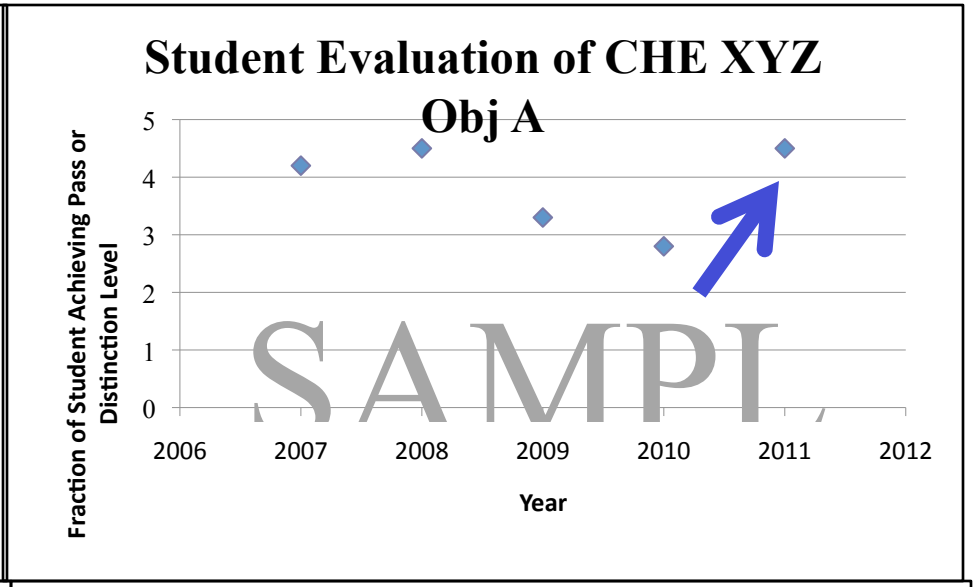
Considering data from the "Chemical Engineering Program-Outcome Assessment Template," "Student Evaluation of Course Outcome," the student end-of-course evaluations, and any other insights and feedback, provide recommendations below for improvement of the course.

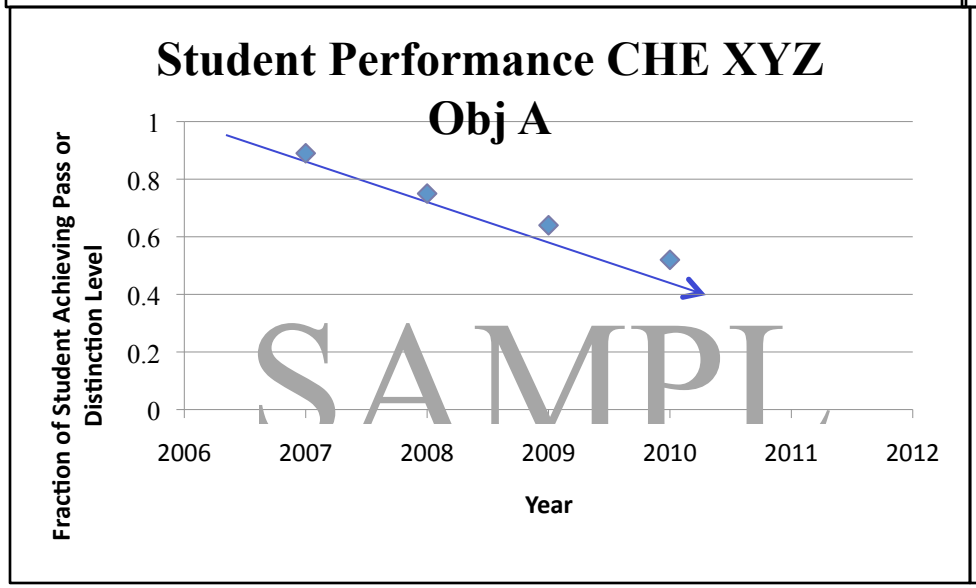
Strategy for Completing Self Study

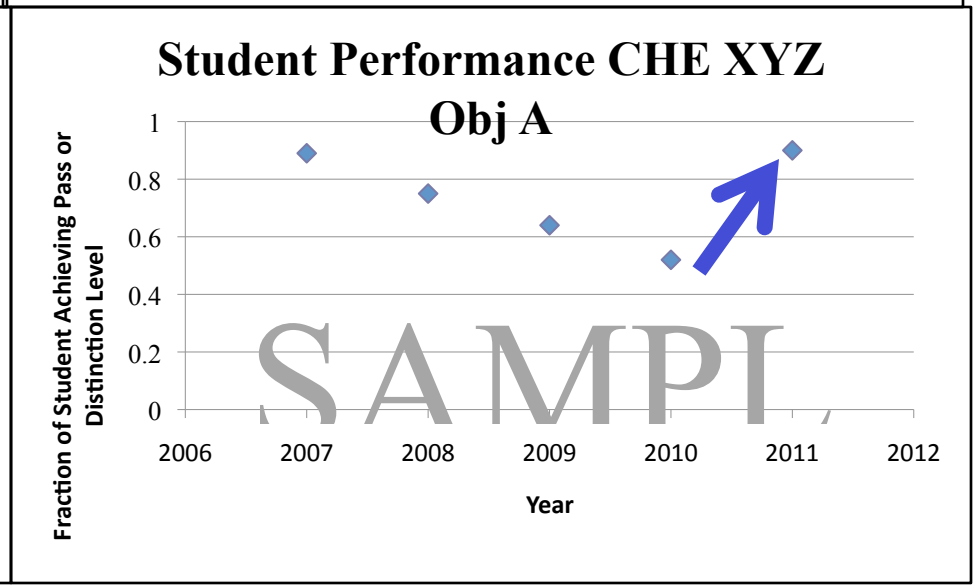
- Assess what data we have, what is outstanding
- Work with faculty individually to retrieve outstanding data
- Analyze numeric data
- Create summative reports for each course
  - Available electronically

Example of Data Treatment









Faculty Comments

1. The department should consider withdrawal from C96.

2. Professors Radke, Reimer, and Segalman will serve as CalSO faculty advisors starting Su 12.

3. UEC will follow development of new undergraduate course on energy (Bell and Segalman).

4. Installation of an RO membrane desalination unit in CBE 154 should be pursued.

5. UEC will discuss a possible option in economics with Professor Schoofs.

6. ABET coordinators (Reimer, Ciston) will contact individual faculty on course data.

7. The department might consider a remedial maths course on differential equations.