

ABET Looms in Fall 2006

Chair Questions: 05/21/05

1. Why go through ABET process?
2. What needs to be done to get ready for review?
(i.e., What needs to be done to succeed in review process?)
3. How will the department work with CoE?
4. What resources are necessary to prepare for ABET review?
(i.e., What resources are necessary to succeed in review process?)

1. Why be ABET Accredited?

Pro's

- judged as a quality department

Con's

- poor university and public perception
- 2 yrs extra practicum for PE license

2. Necessities for ABET Success?

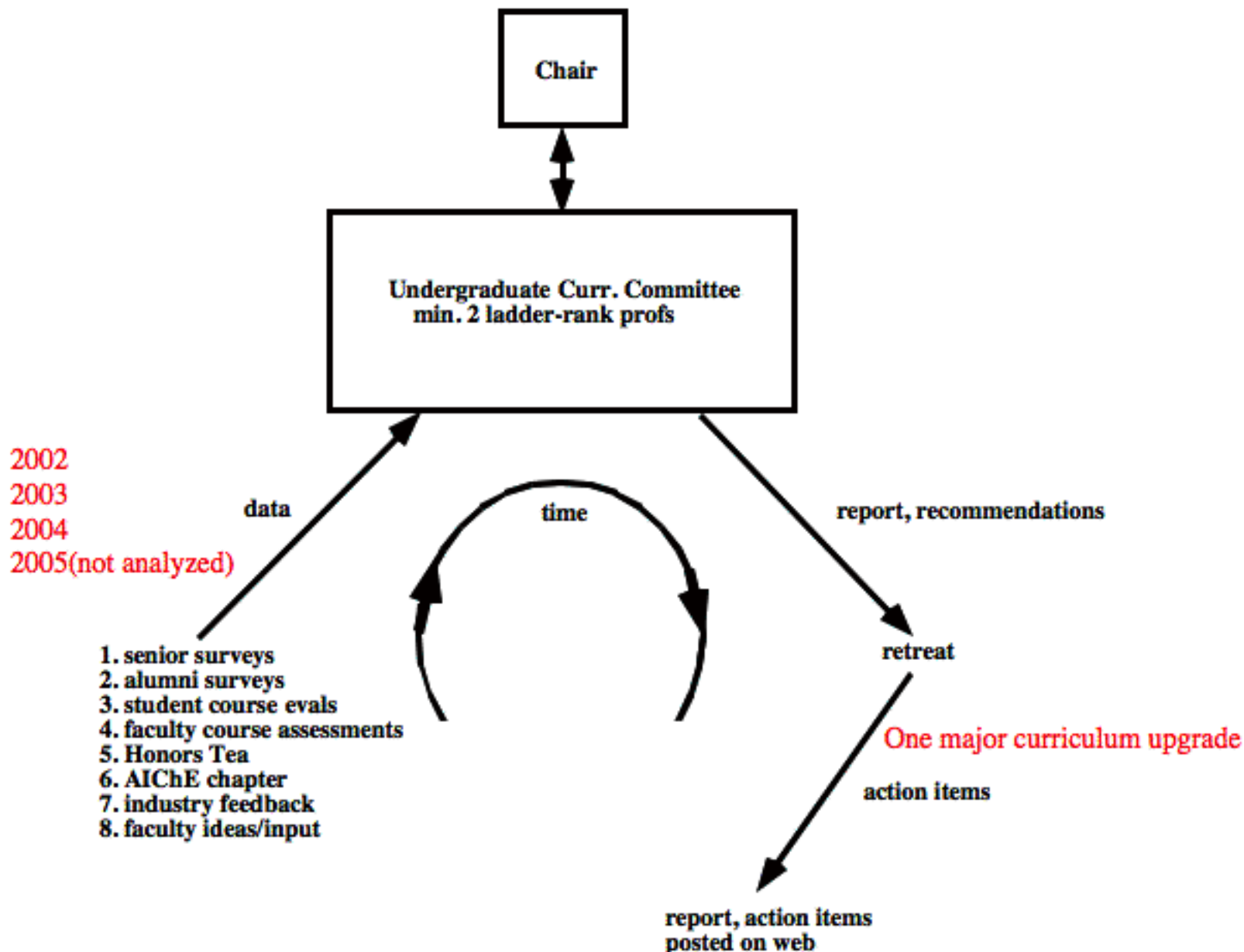
Level 1: Course Improvement

- Follow Nuc Eng: Put course goals, objectives, & expected outcomes online, poll students (initial & final), mine data, document improvements (see handouts).
- Minimalist approach, but helpful to education process.

Level 2: Curriculum Improvement

1. Set overall objectives, outcomes etc (now in place).
2. Conduct polling (senior surveys, alumni surveys, student course evaluations, faculty course evaluations (level 1), honors tea, AIChE chapter, industry feedback, retreat discussion, data mining, document improvements (**only partially in place and not currently sustained**)).
3. Reset overall objectives, outcomes etc (**not done to present**)
4. Levels 1 and 2 constitute a maximum approach and are likely necessary for success.

ABET UNDERGRADUATE OUTCOME AND ASSESSMENT REVIEW CYCLE



Chemical Engineering Outcomes Assessment

Fall Semester

UGCC, Chair

Final Action Report
Posted and Circulated

UGCC, Chair

UGCC/AIChE Meeting

College staff

Alumni Surveys
Collected

Spring Semester

*Undergraduate Dean,
UGCC, Chair*

Honor's Tea

UGCC, College Staff

Graduating Senior
Survey

UGCC, Faculty

Faculty Course
Assessments

Summer

College Staff, Chair

Student Course
Evals Collated and
Summarized

3. Interaction with CoE?

The CoE conducts senior exit polls and makes the data available to the individual departments. We could join this effort with some savings to our resources.

We currently have a senior-polling effort in place, but data interpretation lags.

However, there is question as to the value of the senior-polling effort, at least in it's current state.

4. Resource Needs?

Level 1: Course Improvement

- 1 semester hire to implement initially course goals etc & web-site development; 1/4-1/2 staff to handle polling and data interpretation, web updating etc ; 1 faculty assignment as ABET Coordinator (on continuing basis), faculty effort on course statements, supervising effort of UGCC.

Level 2: Curriculum Improvement

- Level 1 needs plus: 1/4-1/2 staff to handle polling, web updating, etc, considerable more effort of faculty ABET Coordinator (likely will need teaching relief), considerable more effort of UGCC and faculty.

Discussion Item:

- Is the faculty consonant with investing the necessary resources?

1) Schedule.

- August 2005 - Prepare rough draft of Program Self Study Reports. The primary purpose of this activity is to identify areas in the Self Study reports where information is incomplete, so that departments can work to assemble this information in time for the submittal of the final report for ABET.
- November 2005 - College submits request to ABET for review.
- June-July 2006 - final Program Self Study reports due to ABET.
- Sept 2006 - Feb 2006 - ABET schedules site visit to UCB some time during this period.

2) Resources.

Departments need to review and identify specific areas where additional resources will be needed to successfully implement ABET requirements. The Dean has agreed to be supportive of ABET related needs. For Chemical Engineering, COE will provide supporting information to the College of Chemistry where ABET-related needs exist.

3) Review of Objectives and Outcomes.

ABET Criterion 2 (Program Educational Objectives) and Criterion 3 (Program Outcomes and Assessment) requires that "There must be processes to produce these outcomes and an assessment process, with documented results, that demonstrates that these program outcomes are being measured and indicates the degree to which the outcomes are achieved." Here we need to review what efforts have been made to update program objectives and outcomes, and have department faculty review current program objectives and outcomes at the next available opportunity. ABET has added design experience requirements related to economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability constraints (Criterion 3) that will likely need to be added to our program outcomes.

4) Prepare draft Program Self Study Reports.

In this process, areas where information is incomplete can be left blank, and highlighted as areas needing further investigation. Updating these reports will include updating tables showing 1 1/2 years of engineering science and design courses (e.g., 45 units, Criterion 4). If we have programs that have difficulty identifying 45 units of "engineering topics" courses, we will need to develop a strategy to increase the number of courses that can be counted in this category. This can potentially be accomplished by developing statistics showing the fraction of undergrads going to grad school (around 30%), and arguing that graduate studies are one of our primary constituencies.

5) Begin planning to collect student course materials in Fall '05/Spring '06.

This is the same activity as in previous reviews.

6) Define course Prerequisite Knowledge, Objectives and Outcomes.

This has been done at most other engineering colleges.