

Engineering College Council
April, 2003

Undergraduate Educational
Programs

ABET Preparations
Mission, Vision, Values,
Objectives

Programs Undergoing ABET
Review in Fall, 2004

- Biological Engineering
- Chemical Engineering
- Civil Engineering
- Electrical and Computer Engineering
- Engineering Physics
- Materials Science and Engineering
- Mechanical Engineering



The Accreditation Process

- College requests an ABET Evaluation – January 2004
- College completes a Self-Study Questionnaire – June 2004
- Evaluation team (for each program) conducts on-site review – Fall 2004
- Evaluation team writes a report and the college has an opportunity to respond to it



Focus of ABET Accreditation

- Continuous improvement
- Program Educational Objectives
- Program Outcomes



Program Educational Objectives

- Definition: Statements that describe the expected accomplishments of graduates during the first several years following graduation.
- Unique to the program and institution
- Must be consistent in all publications

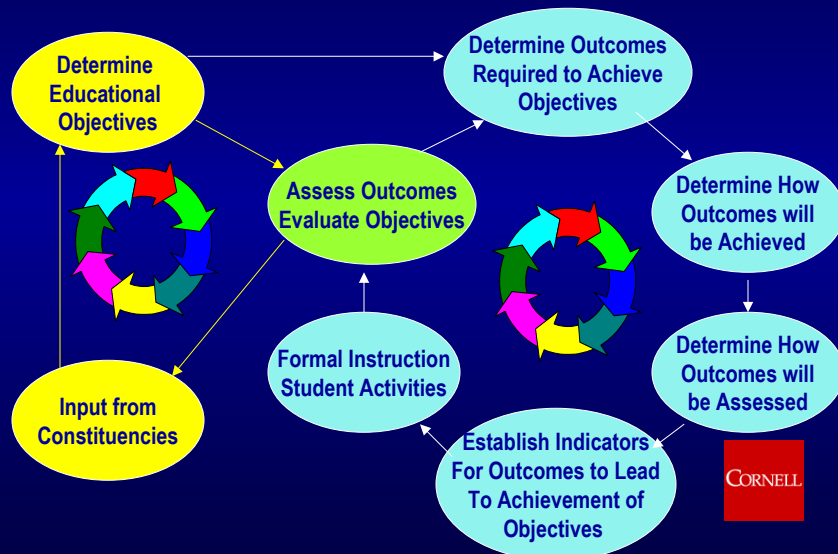


Educational Objectives

- Educational Objectives must:
 - Involve constituencies
 - Have a process-oriented approach to achievement (links to the curriculum)
 - Have a process-oriented approach to evaluate achievement of objectives



ABET Evaluation & Assessment Loops



Criterion 2. Program Educational Objectives

- Published educational objectives
- Process based on constituency needs to determine and review objectives
- A curriculum to ensure the achievement of the objectives
- Evaluation to ensure the achievement of the objectives and improvement of the program

Cornell University's Mission and Values

...educating the leaders of tomorrow and
extending the frontiers of knowledge...

...every segment of society ...

Freedom with responsibility.



The Engineering College Undergraduate Education Mission

To provide an exceptional undergraduate
educational experience, infused by discovery
and creation and enriched by inquiry-based
learning, through which our graduates attain
the knowledge, skills and experiences
necessary to contribute to the profession and
humankind.



Specific missions are:

1. To enroll and graduate a highly qualified and diverse undergraduate student body and enable their success



Specific missions are:

2. To continuously improve the quality of the undergraduate education by ongoing evaluation of the common curriculum, assessment of teaching and learning, consideration of the needs of the future workforce, and implementation of improvements based on those results.



Specific missions are:

3. To infuse the results of ongoing research, the capabilities of technology, the excitement of hands-on learning and the experience of design projects into the undergraduate curricula.



Specific missions are:

4. To provide high quality information and guidance to undergraduate students about the college, curricula, and future career possibilities



Specific missions are:

5. To oversee the educational progress of all students and encourage and enhance their success, both prior to affiliation with a degree program and within the field programs.



Specific missions are:

6. To collaborate with the faculty and administration of other Cornell colleges and organizations external to Cornell to efficiently provide the best possible undergraduate education.



Undergraduate Education Vision

Cornell Engineering will utilize the world-class intellectual resources and interdisciplinary opportunities of the college and university to prepare our undergraduate students for lifelong creation of knowledge and solutions to complex real-world problems.



Undergraduate Education Values

... all the students who enroll are capable of successfully graduating
...because young people may change their professional and personal aspirations and may struggle, it is our responsibility to allow students to change directions and to provide services to assist these students...



Undergraduate Education Values

- ...variability of learning styles
- ... dual responsibilities of Cornell faculty to research and teaching
- ... balance workload and personal life
- ...inclusive, respectful college environment



Undergraduate Educational Objectives

1. ...educate students who excel in creating knowledge and solutions to problems.
 - ... knowledge of fundamental science, numerical computation, technological tools, and design concepts ... conceptual thinking about complex systems through activities that require merger of facts and tools.



Undergraduate Educational Objectives

2. ...consider the impacts of designs on people, societies, and nature ...learn to identify and respect the challenges ... understand that the responsibilities of engineers and scientists are global ...well prepared to communicate ...and to work on teams with other perspectives.

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Your Participation Needed

Afternoon breakout session to comment on the college-wide mission, values, vision, objectives statements, and the Program Educational Objectives of ABET fields.

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