Design and Implementation of a Quality Improvement Process for Engineering Programs: EC 2000 and Strategic Planning

Session Goals

The goal of this session is to demonstrate how implementation of the new ABET engineering criteria (EC 2000) and continuous quality improvement leads to program improvement and excellence. Furthermore, we will show how evaluation and assessment assists a school to focus its efforts and streamline program offerings.

Presentation Format

Throughout the presentation, there will be opportunities for the attendees to ask questions, present their views, and share their own experiences.

Session Summary

In 1997, the School of Engineering began a process to develop a comprehensive assessment and evaluation plan to improve the quality of its educational programs. The driving force behind our efforts was the new engineering criteria (known as EC 2000). The plan that resulted assists us in our efforts to continually improve the quality of our programs.

In this presentation, we will describe (a) interpretation of EC 2000 with a focus on criteria 2 and 3, (b) an overview of a step by step assessment and evaluation plan to make engineering programs EC 2000 compliant, and (c) a curriculum development process that addresses the EC 2000 program outcomes as well as our institution's unique features.

The purpose of program and course assessment is to continually improve the quality of our educational process and programs. Our programs are developed, reviewed, and revised based on the needs and requirements of the School's major constituencies and the School's mission. These constituencies include our students, our faculty, our graduates, and employers of our graduates. In this presentation, we will describe the ways in which we address constituencies' expectations, the variety of assessment and evaluation tools we utilize, and the recent improvements and changes that have occurred based on evaluation and assessment.

A sample of the programmatic changes, which resulted from the implementation of the quality improvement process, is outlined below.

a. All ABET accredited engineering programs were revised.
b. The freshman curriculum was revised to improve retention and better prepare our students for their subsequent engineering courses.
c. The course evaluation tool was revised to reflect the focus on outcome assessment.
d. One undergraduate engineering program was discontinued and three graduate programs were consolidated into one program.
e. Scholarship guidelines for the School of Engineering faculty were revised to emphasize the role of faculty scholarship in the education of our undergraduate engineering students.
We will provide the session attendees with a manuscript describing our assessment and evaluation plan for quality improvement.

Key Words
Assessment, outcomes assessment, evaluation, program improvement, closing the loops.

Bibliography

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