

An Introductory Engineering Course to Develop Competencies among First Year Engineering and Technology Students

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Abstract

In order to improve the learning experience and skills required for the engineering students, a new introductory engineering course has been introduced. The objective of the course is to help the freshmen engineering students to get broad understanding of the engineering program design which is essential to become a good professional engineer. Each topic of the course is related to ABET learning outcomes to ensure that exposure students is done in their desired competencies.

Introduction

The introductory engineering course has been developed to inspire the students of future generations and provides the skills necessary to succeed with in engineering and face challenges of the society. This also helps the students to stimulate their interpersonal skills and team work. The course provides the foundation for engineering by emphasizing on problem-solving skills and active learning ability to be successful later on their career.

Basic Themes of the Course

1. Use of assessment to improve student learning and educational programs at both undergraduate and graduate levels
2. Understanding and applying ABET criteria to accomplish differing program and institutional missions
3. Illustration of evaluation/assessment activities that can assist faculty in improving undergraduate and graduate courses and programs
4. Description of tools and methods that have been demonstrated to improve the quality of degree programs and maintain accreditation
5. Using high impact educational practices to maximize student learning
6. Identification of methods for overcoming institutional barriers and challenges in order to implement assessment initiative.

Bibliography

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