Engineering Technology Programs at the Crossroads:
Curriculum Revisions to Meet Emerging Needs

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Abstract

Northern Kentucky University (NKU) has had TAC of ABET Accreditation since 1997 for BS degree programs in Manufacturing Engineering Technology, and Electronics Engineering Technology. Closely associated with these, we have Mechanical and Manufacturing Engineering Technology (MMET) and Electronics Engineering Technology (EET) programs under review for ABET accreditation. All programs lead to the Bachelor of Science in Engineering Technology.

This paper reports on the work in progress; our response to simultaneous changes in program requirements. Recent changes in the Engineering Technology (ET) educational environment provide us with a rare opportunity to enhance both programs for students, faculty, schools, and industry. We discuss program enhancements in five areas:

- adaptation of the outcome-based ABET criteria to our ET programs
- increasing number of cross-disciplinary courses in the two programs
- engaging undergraduates in research activities dealing with emerging technologies
- adopting an application-based approach to teaching materials and processes
- collaboration with community colleges in better preparing our future students

Introduction

Today, engineering Technology educators must teach academic fields which encompass a greater range and depth of technology than ever before. Engineering Technology graduates, on the other hand, are expected to combine detailed understanding of a subspecialty with the flexibility to adapt to globalization [1, 2], new technologies[3], interdisciplinary challenges [4] and a changing marketplace [5].

The Engineer Technologist must be able to see beyond technical issues to the social implications of technology, adapt to the rapid changes in world markets and new technologies, resolve interdisciplinary challenges, and combine a depth of knowledge with the depth of understanding required for real-world engineering. In recent years, as these demands have increased, engineering technology education has shifted with the continued expansion of technology to