

## **2006-2386: BESTEAMS: A CURRICULUM FOR ENGINEERING STUDENT TEAM TRAINING BY ENGINEERING FACULTY**

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## 1526: BESTEAMS: A Curriculum for Engineering Student Team Training by Engineering Faculty

Engineering instructors who have uttered the following sentence have seen students grimace, roll their eyes, beginning looking around and making gestures to each other or, shrink deep into their seats in horror.

*“This course will include a team project worth a significant portion of your grade.”*

This seems like an odd reaction to the announcement of a team activity. After all, engineering is a team sport. Our engineering programs are ABET accredited only after demonstrating a curriculum that offers the ability to function in multidisciplinary teams to our students. The truth is that working in teams is a skill that instructors must teach along with all the other professionalism skills we require from our graduates. This book is designed to give engineering instructors the means, methods, and motivation to add team training modules to courses that include a team projects.

Our work on developing formal materials for team training grew from the synergy of engineering education initiatives already underway at the University of Maryland. The *Introduction to Engineering Design* (ENES 100) course was initiated under the auspices of the NSF sponsored ECSEL coalition in 1990, and its centerpiece was participation in a team-based engineering project. Students actively worked to design, build, and test human items such as powered water pumps, solar desalinators, and postal weighing scales. The deliberate *teaching of teamwork***Error! Bookmark not defined.** was included in the course. The inclusion of team training in ENES 100 was facilitated in part by the enthusiasm of the faculty members involved in ground breaking curriculum development and the fact that the *faculty members themselves* were taught team training skills as a part of their ECSEL involvement.

Our work has culminated in a curriculum of team training modules, developed with supported by a Course, Curriculum, and Laboratory Improvement (DUE-CCLI-0089079) grant from the National Science Foundation. The modules include presentation slides and lesson plans designed specifically to enable use by engineering faculty. First, the curriculum is composed of three distinct tracks based on key domains of team functioning (personal knowledge, interpersonal effectiveness, and project management skills). Second, the material is designed in discrete “modules” or individual building blocks that can be combined by engineering faculty in ways that make the most sense for their particular students and team projects. Third, each module includes background material for instructors, presentation outlines, interactive student activities, and suggestions for customizing the material for different class sizes and lengths. Finally, the modules presented here include complete sets of Microsoft PowerPoint slides that can be downloaded and used by instructors as is or customized. The website for downloading the Training Modules can be found at <http://www.enme.umd.edu/labs/BESTEAMS/>.