

Project Based Engineering Curriculum at the United States Military Academy

MD Parrish and JH Schreiner

Department of Systems Engineering
United States Military Academy, West Point, NY

Corresponding author's Email: michael.parrish@westpoint.edu

Abstract: While the United States Military Academy, chartered in 1802 by President Thomas Jefferson, is the nation's oldest military academy in America, it also is the first to offer an engineering education. Over two centuries later, the West Point model includes the concept that all cadets must complete an engineering course of study. Multiple traditional engineering majors are offered that meet ABET standards. Unique to West Point is the concept of the Core Engineering Sequence (CES) where non-Engineering majors must take a three course curriculum to meet graduation requirements. In the Department of Systems Engineering, CES students take Introductory System Engineering as well as Decision Analysis courses in their junior year culminating with an Applied Systems Design Course in their senior year. This final course enables the students to apply their engineering principles learned earlier to a real world problem supporting various internal military or external civilian clients. This presentation will establish the criteria and model for success of project-based courses as well as provide a discussion of potential improvements including areas such as lean six sigma and its implications to the CES at West Point.

Keywords: Systems Engineering, Systems Engineering Education, Engineering Curriculum