

Lehigh's Interdisciplinary Capstone Courses in Integrated Product Development (IPD)

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In 2001 Lehigh University's Department of Mechanical Engineering and Mechanics gained full accreditation from ABET. Among many considerations the review team sited the successful implementation of a capstone project course sequence that focuses on technical entrepreneurship through Integrated Product Development. The two semester sequence follows a four phase new product development process which emphasizes business planning, opportunity scanning, creativity and innovation, conceptual design, detailed design, fabrication and testing of prototypes, production and marketing planning and financial modeling. The program employs open-ended projects generated by industry sponsors and student entrepreneurs. The project teams include students from engineering, business and design arts. Started in 1996 with just two teams, the IPD program has grown to include 203 students from 18 majors from across campus working in 34 teams. In recognition of the program's success, the university has recently completed a 17,000 sq ft facility dedicated to these student project teams. This paper will explore the mission, goals, program components and evaluation mechanisms of the IPD program and focus on the lessons learned in the ABET accreditation process.