

<u>Question</u>	<u>Answer</u>
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Title of Paper	Preparing Engineers for Service

Abstract

ABC University has a strong service mentality. As the result of the university's "Serve Day" at the State School for the Blind, faculty members developed a passion to connect engineering students with service opportunities that require a technical solution. In the spring of 2010, the engineering department initiated a course sequence required for all engineering students. The program affiliated with the EPICS program (started at Purdue University) and utilized much of their course material for documenting the design process.

Students' initial excitement for the course waned as they began to feel burdened by the large documentation requirements; the instructors agreed with their assessment. In this service-learning context, the intention was emphasize service, however academic demands dominated. Because of the hands-on design-and-build curriculum, the instructors felt that students could perform effectively as engineers without additional "academic" material overhead. Thus, much of the documentation requirements were curtailed.

When the requirements eased, student passion returned; yet, the instructors soon discovered that with this excitement came reduced project performance. Though the faculty was teaching the design process and engaged students with multiple projects throughout the curriculum, students had not effectively learned how to develop project requirements and specifications. Therefore, the instructors revamped the approach and implemented a detailed design-cycle template with a weekly assessment form using Google Apps. The students were not enthusiastic about the added documentation requirements, but they recognized that these processes enabled them to achieve their goal of providing service to others.

In this paper the authors detail the development of a service-learning course, recounting the various changes in the approach. They suggest that this learning is a prerequisite for effective engineering service and emphasize that if students are to serve, they must first learn.