

Implementation Review of a Service-Learning Project into a Freshman Level Plastics Engineering Course

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In an effort to provide students with a vast array of experiences, educators support their in-class teaching with project-based, experiential and hands-on learning approaches. As these approaches have been implemented into undergraduate engineering curriculum, the need for incorporating the service component became necessary. As the importance of service learning became more evident, higher education institutions incorporated service learning concept into the engineering education. University of Massachusetts Lowell incorporated service-learning into many of its undergraduate courses across the College of Engineering. Many faculty across the College of Engineering integrated a service-learning project into their course curriculum. Service-learning projects not only provide students an understanding of developing a system or a component for a community partner (a non-profit organization, a village, a hospital, etc...) but also provide tremendous opportunity to the community partner to improve their existing set-ups, and systems. Integration of service-learning projects across the College over many consecutive years proved the effectiveness and success of the program.

This study will review the implementation of a service-learning component into Introduction to Engineering II (25.108) course for Plastics Engineering Department at University of Massachusetts Lowell. In Fall 2012 semester 29 students are enrolled in the course, and as a part of their course work they all are expected to complete a service-learning project. It was provided in the course syllabus that the service-learning component is worth 25% of the final course grade. For their service-learning projects, students were asked to work in groups of 2-4, and pick a plastic product of their choice and prepare a poster about the manufacturing, use, and recycling of that plastic product. Once students complete their posters, then the posters can be forwarded to schools to educate younger students about the plastic product and the importance of recycling. With the integration of this service-learning project, freshman level Plastics Engineering students will be introduced to the major and they will also get an opportunity to give back to the community.

This study will review the integration of service-learning project, and will also provide samples of student work. Students' experience and feedback on the subject will be presented in detail. This study is funded by UMass Lowell Service Learning Faculty Grants

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