

**Abstract for ICEE-2004 Gainesville
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The WPI Plan is predicated on the concept that project work provides an environment in which students “learn by doing.” WPI’s undergraduate programs feature broad learning outcomes such as the ability to address open-ended problems, to communicate effectively, to function well in teams, and to understand the societal and cultural contexts within which science and technology function. A set of required projects is central to the achievement and demonstration of such learning outcomes.

As a practical matter, we have found that problems drawn from the “real world” provide very effective learning experiences for students working in small teams with guidance from faculty advisors and sponsor liaisons. WPI students complete two such projects, a technology/society project done in multidisciplinary teams, and a capstone design or research project in the major area of study. Both of these projects are degree requirements for every WPI student. Over 50% of WPI students complete at least one such project overseas, and assessment indicates that these experiences are especially effective contexts for motivating high levels of student achievement.

Because of WPI’s well-established project-based approach to global learning, the Global Perspective Program, more than 500 WPI students participated last year in semester-long study-abroad programs culminating in a major team-based project. The WPI Global Perspective Program presently provides opportunities at over two dozen sites for students to complete disciplinary and interdisciplinary projects—all of which are advised by faculty in residence with the students at the global site. (For a full description of programs and sites, see www.wpi.edu/+global/ .)

In this paper, we will discuss the educational objectives of these two types of student projects in terms of outcomes and their assessment. In particular, we will focus on the challenges and benefits of achieving and measuring broad learning outcomes in open-ended project settings. Some of these learning outcomes are particularly well-suited to demonstrating ABET criteria, including those criteria that are most difficult to achieve in a conventional, course-based curriculum. We will describe how the evidence provided by these projects has been used in two highly successful ABET EC 2000 reviews. Background outcomes material is publicly available at www.wpi.edu/Academics/Outcomes.