

## SPECIAL SESSION – INTEGRATING SERVICE LEARNING INTO ENGINEERING AND COMPUTER SCIENCE COURSES

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### SESSION DESCRIPTION

This interactive session will explore the integration of service learning into engineering and computer science courses. Service-learning is a pedagogy whereby students engage in community service that is linked with course learning objectives to enhance student learning and to address community needs. Research has shown that students participating in service-learning have a higher comprehension of the course material, are retained at a higher rate and develop an awareness of their local community and the issues it faces as well as an expanded view of their future profession. Current studies indicate that service-learning, and its focus on engineering and computer science in context and its strong emphasis on teamwork, communication, and commitment to addressing community needs may be a means for attracting and retaining under represented populations. Even with all these positives, engineering has lagged behind other disciplines in the adoption of service learning. This session will help educators identify barriers to integrating service learning into their courses and how to overcome these barriers. In the session, participants will be guided through the identification of courses and programs that could be integrated with service, identification of service opportunities and presented with information and resources to assist in the implementation of service-learning on their own campuses.

### GOALS OF THE SESSION

Participants of this session will:

1. Be able to define service learning within an engineering or computer science context
2. /Be able to describe characteristics of successful service learning programs
3. Be able to identify how service learning can be used to meet learning outcomes in specific classes or programs in their own department.
4. Develop a network of engineering/computer science colleagues who share an interest in service learning.

### SESSION FORMAT

The workshop will follow a format of successful service learning workshops conducted by Campus Compact, EPICS and AAHE and will utilize resources from Campus Compact, AAHE, the Michigan Journal of Community Service Learning and other practitioners of service learning in engineering and computer science.

The workshop will be conducted in a collaborative learning environment to encourage the development of a network of other educators interested in the pedagogy of service learning. Each participant will receive a packet of resources and examples of successful programs.

The outline for the special session will be

1. Introduction
2. Overview of service learning
3. Examples of service learning in engineering
  - a. Freshman Design
  - b. Senior Design
  - c. Technical elective classes
  - d. Collection of courses
4. Small group discussions:
  - a. Identifying the course(s)
  - b. What service would be performed
  - c. Identifying available resources for support
  - d. What part the service will play in the course
  - e. Identifying reflection activities
5. Closure

### ANTICIPATED AUDIENCE

Participants in this session can include current and future engineering or computer science educators interested in integrating of service learning into their courses as well as current practitioners of service learning

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