Abstract # K-14-1090

Author/Institution: Darryl Koch, University of Michigan

Other Authors/Institutions: Cinda-Sue Davis University of Michigan

Gear: FourWheelDriveType: Individual   Length: TenMinutes

Abstract: Effective Collaborations for Course Redesign: A Model at the University of Michigan

There is increasing national concern over the continuing underrepresentation of women and historically underrepresented minority students in computer engineering, computer science, and electrical engineering. At the University of Michigan, all first year engineering students are required to take an introductory programming course in C++ and Matlab. Although this course is not intended to be an introduction to computer engineering and computer science fields, many students perceive that it is. If students do not have a successful or encouraging experience in this course, they are not likely to consider further courses or a concentration in related fields.

In order to improve the outcomes of this gateway course and make it a positive experience for all students, a collaborative effort was initiated between the Women in Science and Engineering Program and the Minority Engineering Program Office. This effort called the IT Scholars Program was described in a presentation at the 2003 WEPAN Conference. Since that time, the collaboration has grown to include engineering faculty members and the School of Education. This new initiative involves formal curriculum assessment including surveys and interviews of students, redesign of assignments and exams, implementation of technology to provide "instant feedback" to students, and supplemental instruction to address underprepared student needs. This presentation will describe the evolution of this collaboration and the progress being made in redesigning a critical gateway course.