

Presentation Description

Using 5th Year Students to Teach Undergraduate Precalculus

Patrick Lorenz
Maine Maritime Academy
Castine, Maine, U.S.A.

Jeffrey Taub
Maine Maritime Academy
Castine, Maine, U.S.A.

Jeffrey Willmann
Maine Maritime Academy
Castine, Maine, U.S.A.

Precalculus is required by almost every major at Maine Maritime Academy (MMA). It is offered as a one semester 4 credit course (MS-101), and an equivalent sequence of two 2 credit courses, (Ms-102 and Ms-103) offered over 2 semesters. The two semester sequence was developed for students who were not prepared for the pace of the one-semester course or who preferred a more relaxed pace.

This presentation explores the situation and the considerations that led to the decision to use 5th year students to teach, and our eventual conclusions about using students under supervision to teach precalculus. We present details of the experience, the level of success we achieved, and finally a panel discussion with students and instructors. We estimate a total of 60 minutes are required; 20 minutes for the presentation, 10 minutes for presentation questions, and 30 minutes for the panel.

Unable to find qualified faculty to teach all the required mathematics courses for the fall semester of 2013, we decided to use two 5th year Systems Engineering students. Under faculty supervision, fifth year students taught MS102, the first semester of our two semester precalculus sequence. While working on their ABET-accredited Systems Engineering degree, these students meet all requirements for an Engineering Operations bachelor's degree after their 4th year that includes an extensive applied mathematics education.

This first half of the presentation will include detail and concerns on the selection process of the instructors, the experiences of the two former student instructors, and the basis of our eventual conclusions. The second half of our session will consist of a panel composed of students who took Ms-102 in the fall 2013 semester with one of the 5th-year students as their instructor, if available. Also on the panel will be 5th-year student(s) who are currently teaching Ms-102 in the fall. The panelists will provide their impressions of the course from the student and current instructor perspectives, the benefits and any drawbacks they perceived, and their thoughts on expanding this initiative to other courses. Following their comments, the panelists will field questions from the audience.

Ultimately, we found the whole experience worthwhile and are considering expanding the use of 5th year students to teach other courses.