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Active Learning in Large Classes

Whether you are research or teaching faculty, a post doctoral fellow or graduate student you will likely find yourself teaching an undergraduate course to a collection of students who are not interested in pursuing a mathematics degree. Getting to know your students in these large enrolment classes, keeping them engaged in the course material, and motivating them to succeed can be a challenging task. Scheduled class times are one of the few occasions in which these students have the opportunity to engage with their instructors. So what is an effective way to use this face-to-face time with your students?

Capitalizing on the expertise of the instructor to turn the classroom into an engaging space where students become active participants is the heart of active learning. In an active learning environment students spend class time working on problems individually and in small groups with their peers. The instructor monitors student understanding and misconceptions through one-on-one chats and the use of personal response systems, jumping in to provide explanations and short lectures when appropriate. Of course there is a catch, students are required to come to class prepared.

In this presentation I will highlight how I transformed my classroom into an effective active learning space. From pre-class activities involving readings, video lectures and online quizzes, to in-class activities involving peer instruction, just-in-time teaching and personal response systems. We'll look at the reasons instructors are making the change and the impact it is having on student performance.