

MATHEMATICS TEACHING SEMINAR

Guest Speaker: Arlo Caine
University of Notre Dame

Date: Tuesday, February 21, 2017

Time: 5:00 PM

Location: 125 Hayes-Healy Hall



Lecture Title:
ConcepTests for Calculus

Abstract

ConcepTests (aka clicker questions, think-pair-share questions, classroom voting questions) are a teaching tool for making student thinking visible to instructors in large lecture settings. During lecture, a multiple choice conceptual question, with distractors based on common student misconceptions, is shown to the class. The students are given a short period of time to individually reflect and then vote their answer to the question using a classroom response system. Following a short period discussion with a nearby partner or small group, students are asked to vote again. The best designed questions produce an initial vote which is broadly split among the available answers but which unifies around the correct answer after discussion showing a change in student thinking in a productive direction. At California State Polytechnic University Pomona, we have developed a bank of such questions for teaching Calculus, typeset on individual PDF slides with high-quality graphics which is available to all instructors via the web. This is joint work with Prof. Berit Givens. This teaching technique originated in the physical sciences and I will discuss how vs. how not to implement it in the Calculus classroom and showcase various types of questions one can ask addressing a variety of learning goals.