



PHYSICS AND ASTRONOMY COLLOQUIUM

Dr. Ed Prather
University of Arizona

“Gaming the Classroom: Strategies to Promote Active-Learning in the STEM Classroom”

Abstract

For more than two decades members of the Center for Astronomy Education (CAE) have been researching how we can best support students’ learning in a wide variety of STEM disciplines and courses. From hierarchal sequencing of clicker questions, to student-generated representation tasks, to collaborative tutorial activities – we have been developing instructional strategies that can unpack difficult topics and deeply engage learners in classes from 25 to 700 students. From a gaming perspective, we have been investigating how to foster Enticement, Mystery, Action, Risk, Challenge, Uncertainty, and with any luck Mastery. Our research shows how carefully implementing combinations of representations and intellectual tasks can effectively motivate and guide learners in developing their discipline fluency. I’ll highlight different instructional strategies, solutions for issues of implementation in the classroom, and results that demonstrate how effective these instructional strategies can be for all types of learners.

Wednesday, February 5, 2020
3:30 p.m.
Bob Wright Centre A104