

**UC San Diego's Education Initiative
and
Center for Advancing Math, Science and
Engineering Education (CAMSEE)**

Science Education Seminar

Sarah Eichhorn

UC Irvine

**“Lessons Learned in Online, Hybrid
and Flipped Teaching in STEM”**

Monday, November 17

1 - 2 pm

1205 Natural Sciences Building

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ABSTRACT –

The widespread availability of education enabling technologies allows faculty to engage with students in innovative new ways that were not previously possible. In this talk, I will share my personal experience teaching large, lower division mathematics courses in online and flipped formats, along with the lessons learned about course design in these instructional modalities. Data gathered from a multi-year longitudinal study of lower division math students help show the relative effectiveness of the various teaching methods that were piloted.

In addition to personal experience, I will also share more general best practices gathered from the range of UCI teaching experiments in online, hybrid and flipped teaching in our STEM courses. We will discuss simple, low barrier starting points for technology enhanced teaching, sources of resources to facilitate flipped teaching, things to consider when developing an online course and ways to build in learning assessments to determine effectiveness of new teaching approaches.

BIO –

Sarah Eichhorn is the Associate Dean of Distance Learning and a tenured lecturer in the School of Physical Sciences at the University of California, Irvine. Eichhorn received her Ph.D. in Applied Mathematics from the University of Arizona in 2004. Her research interests include dynamical systems, planetary physics and undergraduate education. Eichhorn is particularly passionate about innovative approaches to undergraduate education. She currently has a couple NSF undergraduate research and training grants. Eichhorn has had the opportunity to teach 3 different MOOC (Massive Open Online Courses) and through these has taught over 250,000 students.