

Teaching Statement

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Tell me and I forget. Teach me and I remember. Involve me and I learn. – Benjamin Franklin

I've been involving students since about 1990. Mainly astronomy, physics, and math. Previous institutional affiliations include UC Santa Cruz, the University of Chicago, and the School of the Art Institute of Chicago. Currently I teach at Arizona State University (ASU) and at the annual MESA Summer School at UC Santa Barbara.

I specialize in large enrollment, online, introductory courses. Between 2015 and 2018 I was the instructor for the largest college-credit eligible astronomy course in the world, *Introduction to Solar Systems Astronomy*, offered by ASU and EdX. This experiment ended in 2018 as ASU embarked upon a new, but related, experiment focused on re-entry learners - the earned Admissions Program. This experiment transitioned in 2021 to a larger vision of re-entry - the Universal Learners Program. Thus, the Universal Learner version of my solar systems course is heavily enrolled with learners from Starbucks, Uber, the US military, and other institutional partners. My other 4 credit lecture + lab online course, *Energy in Everyday Life*, often hits ~4-figure enrollments.

I subscribe to principles that create a culture of learning around involvement, inquiry, curiosity, and openness to failure. All of my courses are designed and executed with these principles foremost in mind. In my experience, effective learning of science:

- ★ Excites.
The greatest challenges to learning are disinterest and apathy.
- ★ Cultivates curiosity.
Activities that nurture a natural curiosity are better than the threat of a test.
- ★ Is active.
Effective learning is active, not passive. Watching a video is not enough.
- ★ Is applicable.
Use it or lose it: it is essential to apply what one is learning as one learns it.
- ★ Is community driven.
A community that inspires and challenges is crucial.
- ★ Doesn't discriminate.
Age, race, gender, income, or disability don't determine what one is capable of learning.
- ★ Allows for failure.
The best learners allow themselves to make mistakes along their journey.
- ★ Sparks questions.
The end of a good course isn't knowing all the answers – it's knowing what to ask next.

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