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Engineering Learning in Calculus at the Colorado School of Mines

Abstract:
The Colorado School of Mines is a public teaching and research university located focused on engineering and applied sciences. Calculus instruction at Mines has a history of innovation, including an early 1990’s NSF funded project to integrate the teaching of calculus and physics. More recently there has been an impetus to update calculus instruction at Mines, supported through a university wide program called Engineering Learning. In this talk, I will very briefly discuss the history of teaching calculus at Mines. I will also discuss the Engineering Learning program and how it is being applied in the first year calculus sequence. Pilot course redesign programs are underway for the fall 2016 semester in both Calculus I and II. Some preliminary results and lessons learned (so far) will be shared.

Bio: Debra Carney is a Teaching Associate Professor at the Colorado School of Mines (CSM) and the Assistant Department Head for the Department of Applied Mathematics and Statistics. She received her Ph.D. in Mathematical Logic from the University of Maryland, College Park in 1998. She arrived at CSM in 2012 after spending nine years on the faculty at the University of Denver. She is interested in innovative teaching techniques that improve student Learning and has co-developed a partially flipped model of instruction for linear algebra. She has also developed a passion for mentoring females in mathematics and co-advises the Society for Women in Mathematics (SWiM) at CSM. She enjoys hiking and traveling with her family, especially to Cape Cod every summer.

Host: Chris Rasmussen