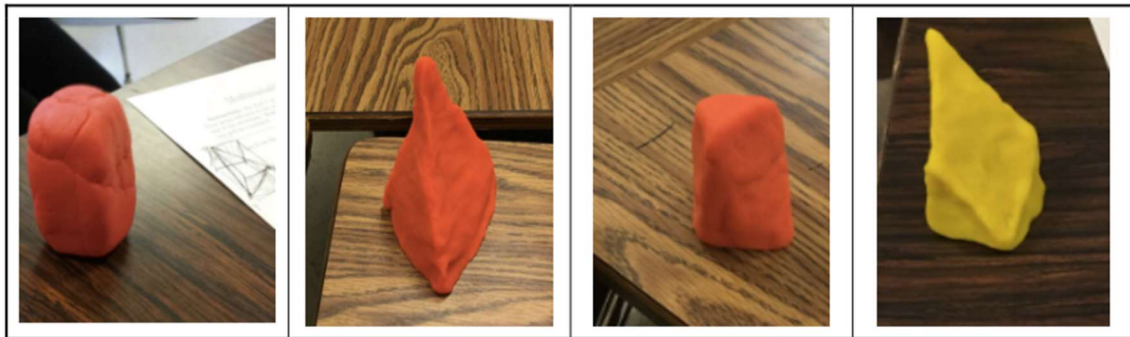


Graduate Mathematics Seminar

Injecting Spatial Reasoning in Vector Calculus

Monica Mendoza

University of California, Santa Barbara



Abstract: It is well documented that when students are asked to find the volume of a solid in Calculus III it is common practice to teach students to compute the triple integral. But, what do we know about how students conceptualize solid regions in three dimensions? In this talk, we introduce a new three-system model that transitions from an initial mathematical representation of a concept to students' processes of information. The final response is how students communicate their learning. Presented here are findings from the analysis of student interviews and group work assessing the strength of their conception of a solid region described by a set of inequalities. If time permits, ongoing work from an introduction to proof course will also be presented.

When: Monday, September 30, 2019, 6:00 – 7:00 pm

Where: CSUCI, Sierra Hall 2411