Cynthia Oropesa Anhalt* (canhalt@math.arizona.edu), The University of Arizona, Department of Mathematics, 617 N. Santa Rita Ave., Tucson, AZ 85721, and Ricardo Cortez (rcortez@tulane.edu), Tulane University, Mathematics Department, 6823 St. Charles Ave., New Orleans, LA 70118. Rethinking the Undergraduate Curriculum for Secondary Mathematics Teacher Preparation: Using Mathematical Modeling Modules to Address Common Core Standards.

The secondary mathematics teacher preparation program at the University of Arizona resides in the Mathematics Department. All students in the program are math majors taking 39 credits of mathematics content, 11 credits of mathematics pedagogy, 14 credits of general education plus a student teaching field practicum. In view of the far-reaching role that mathematical modeling plays in the Common Core, several course syllabi have been revised to place emphasis on building a progression for teaching and assessing the various elements of mathematical modeling and their connection to other Common Core standards. The curriculum revisions have been made through a partnership between mathematicians and mathematics educators. I will describe curriculum development in mathematical modeling through modules that are infused in mathematics pedagogy courses. These modules serve to introduce mathematical modeling content within a pedagogical framework that addresses various content standards and mathematical practices. In order to determine the prospective teachers’ understanding of mathematical modeling, we developed an assessment rubric that is appropriate for multiple levels of complexity in mathematical modeling, therefore, useful at the secondary and university level courses. (Received August 31, 2015)