The STEM Transformation Institute, along with the Department of Mathematical Sciences, at Florida International University is developing and conducting research on the Modeling in Practices in Calculus (MPC) curriculum, a student-centric design in which students emulate the authentic practices of mathematicians and practice mathematical modeling in the classroom to learn both Calculus 1 and Calculus 2. These authentic practices include students actively working in groups to develop modeling and problem-solving skills; a culturally responsive learning environment that features multiple representations, argumentation and fosters constructive perseverance; and building proficiency with mathematical terminology, language constructs and symbols. Presenters will highlight curriculum artifacts and results from the first year of implementation of the MPC curriculum. Presenters will also highlight the ongoing process of evaluating, modifying, and implementing curricular materials and research instruments. (Received September 25, 2018)