Undergraduate research provides many opportunities for students and faculty members; however, not much information exists on how to create and run an undergraduate research course in K-16 mathematics education. In this session, I will present how I designed and implemented the course, and then re-designed and re-implemented the course based on feedback and reflection. Some topics addressed will be (1) form and intensity of the experience, (2) determination of project needs, expectations, structure, and support to produce original work, (3) assessments used (4) student perceptions, and (5) future plans. The goal of this presentation is the share a model and to promote discussion on creating undergraduate research experiences in K-16 mathematics education to enhance pre-service teachers’ understanding of content pedagogy. (Received August 12, 2015)