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Darryl Chamberlain Jr.* (dchamberlain2@gsu.edu) and **Draga Vidakovic.** *Active Learning in Transition-to-Proof courses: An example lesson of proof by contradiction.*

Proof is central to the curriculum for undergraduate mathematics majors. Students are typically first introduced to formal proof in a transition-to-proof course. The primary purpose of transition-to-proof courses is to move beyond the procedural approaches encountered in lower-level courses (e.g., Calculus) to the types of abstract approaches necessary to prove statements in higher-level courses (e.g., Abstract Algebra). Despite transition-to-proof courses, research shows students continue to exhibit difficulties constructing and comprehending proofs in higher-level mathematics courses. As part of the NSF grant Promoting Reasoning in Undergraduate Mathematics (PRIUM), we have developed a series of lessons on proof by contradiction that actively engage students in different aspects of proof in order to develop a robust understanding of the particular proof method. During this talk, we will present the context of our particular transition-to-proof course, provide an overview of how we designed these lessons utilizing the proof comprehension framework by Mejia-Ramos et al. (2012), and present evidence that attending to the different aspects of proof can foster the types of abstract approaches necessary for student success in higher-level courses. (Received January 13, 2017)