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**Annie Selden\*** ([aselden@math.nmsu.edu](mailto:aselden@math.nmsu.edu)), Department of Mathematical Sciences, New Mexico State University, Las Cruces, NM 88003-8001, and **John Selden** ([jselden@math.nmsu.edu](mailto:jselden@math.nmsu.edu)), Department of Mathematical Sciences, New Mexico State University, Las Cruces, NM 88003-8001. *A Beginning Graduate Transition-to-Proof Course.*

As students progress through the undergraduate and graduate mathematics curricula, they are increasingly asked to demonstrate their knowledge of mathematics by constructing their own original proofs in courses like Real Analysis and Abstract Algebra. But many upper-level undergraduates have a variety of difficulties in constructing proofs - something that has been documented in the mathematics education research literature (e.g., Harel & Sowder, 1998; Weber, 2001). That is one rationale for introducing transition-to-proof courses at the sophomore level. However, not all universities and colleges have such courses, preferring instead to use a course in discrete structures or linear algebra to serve that purpose. Whatever the situation with regard to having, or not having, a designated transition-to-proof course, it appears to be widely believed by faculty that a significant number of entering mathematics graduate students have trouble constructing proofs. Therefore, we have been developing, and are now studying, a course called Understanding and Constructing Proofs for such graduate students. The course is conducted in an inquiry-based, very modified Moore Method way. This talk will describe the course and our experiences to date. (Received September 15, 2007)