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Steven R Dunbar* (sdunbar1@unl.edu), 203 Avery Hall, Department of Mathematics, University of Nebraska-Lincoln, Lincoln, NE 68588-0130, and **Heidi Feller** (s-hfeller1@math.unl.edu), 203 Avery Hall, Department of Mathematics, University of Nebraska-Lincoln, Lincoln, NE 68588-0130. *A Distance Education Course in Experimentation, Conjecture and Reasoning for Middle-School Teachers*. Preliminary report.

We will present an overview of a distance learning course about experimenting with and reasoning about plane and solid geometry, Fibonacci sequences, probability, counting, and statistics. This course was taught for the first time in the spring semester 2005 for in-service middle-school teachers from across Nebraska. The course is the fourth in a 10-course sequence leading to a Master's degree taught as part of the Math in Middle Institute, M^2 . M^2 is an NSF-funded project to create a national model for developing middle-school mathematics teacher-leaders who will mentor peers and offer challenging courses to their students. In addition, the project seeks to create a research program to study teacher learning and student achievement in mathematics. We will describe the course in detail as an example of university faculty and graduate students engaging in-service teachers through a mostly Internet-based delivery system. Specifically, we will discuss the objectives of the course and how they were achieved, the dynamics of the teacher groups, the interactions between instructors and students, the teaching strategies employed, the mistakes, successes, and plans for the second time the course will be taught in spring semester 2006. (Received August 29, 2005)