Learning Goal #1: Students Must Demonstrate That They Are Proficient in Quantitative Methods

Learning Goal: Students need to develop a clear understanding of statistics and must demonstrate the ability to interpret results from empirical research.

Measurement of Goal: These skills can be assessed from the first year Ph.D. Core Exam.

Procedure: The following items will be used to assess student knowledge of quantitative methods.

A. Student understands underlying theory for inferential statistics
   - Probability theory
   - Probability distributions
   - Sampling distributions

B. Proficient in inferential statistics
   - Estimation theory and applications
   - Hypothesis testing: problem formulation
   - Hypothesis testing: test implementation
   - Hypothesis testing: power and sample size

C. Proficient with regression analysis
   - Underlying theory
   - Model specification and implementation
   - Diagnostic procedures
   - Interpretation of results

D. Proficient with analysis of variance
   - Underlying theory
   - Model specification and implementation
   - Diagnostic procedures
   - Interpretation of results

Frequency and Collection: Each summer data on student performance in the areas identified above are collected. The data are collected from the first year Ph.D. exam given each July. Data were collected and analyzed on Ph.D. student performance relative to this learning goal in AY 2006-07 and 2007-08 using the rubric for this learning goal. A brief discussion of the results will be presented in the next sub-section. The data for 2009 will be available in August 2009, and shared with the Peer Review Team during the visit.