

UNIVERSITY OF NORTH CAROLINA
Department of Economics

Economics 271
Syllabus

Dr. Gallant
Fall 2002

Purpose: The course covers a selection of topics from probability theory and mathematical statistics that graduate students in economics must know. The modern literature presumes a working knowledge of these topics. For example, to read Lars Peter Hansen (econometrics), Mark Machina (microeconomics), Robert Lucas (macroeconomics), and Darrell Duffie (finance) requires a good understanding of conditional expectation, which is one of the topics covered. In addition, the course provides students with a basis for deciding early in their studies if theoretical econometrics is a field in which they would like to write their dissertation. One year of calculus is a prerequisite. An additional year of advanced calculus, or any other course providing experience with mathematical proofs, would be helpful.

Text: Gallant, A. Ronald, (1997), *An Introduction to Econometric Theory*, Princeton, NJ: Princeton University Press.

Meets: M and W, 2:00 p.m. to 3:15 p.m. (lecture) and F 11-11:50 a.m. (recitation) in Room 308 Gardner Hall.

Topic	Reading Assignment
1. Probability	Chapter 1 8/21–9/11, 6 lectures
2. Random Variables and Expectation	Chapter 2 9/16–10/2, 6 lectures
3. Distributions, Transformations, and Moments	Sections 3.1–3.3 10/7–10/9, 2 lectures
Midterm	Chapters 1, 2, 3.1–3.2 10/14
4. Distributions, Transformations, and Moments	Sections 3.3–3.8 10/16–11/4, 6 lectures
4. Convergence Concepts	Chapter 4 11/6–11/18, 4 lectures
5. Statistical Inference	Chapter 5 11/20–12/4, 4 lectures

There is no class 9/2 (Labor Day), 10/18 (Fall Break), and 11/27 & 11/29 (Thanksgiving). Exams will be in class and closed book except for a one page “crib sheet”. Office hours are Mondays, Wednesdays, and Fridays from about 10 a.m. to 3 p.m.; an appointment is suggested. Homework and other class information is posted on the net at URL <http://www.unc.edu/~arg/econ271>. Homework counts 25% toward the final grade, the midterm 25%, and the final 50%.