# Statistical Analysis of Econometric Models: An Introduction

## Week 4

1. Multivariate Gaussian distribution
2. Stochastic independence
3. Distribution of a function of a random variable (univariate and multivariate)
4. Distributions of quadratic forms of random variables
5. Introduction to Statistical Inference
6. Properties of estimators
7. Likelihood function
8. Cramer-Rao Lower Bound, Information Matrix,etc.

<u>Reading</u>:

HC  Sections 2.4, 4.1 to 4.4 (last section primarily for reference)
WG (1997 Edition) Sections 3.10, 4.2, 4.3
Goldberger  Chapter 8

## Week 5

1. Introduction to large sample distribution theory
2. Concepts of convergence
3. Probability limits
4. Introduction to central limit theorems
5. Asymptotic distributions of maximum likelihood estimators

<u>Reading</u>

WG (1997 Edition) Sections 4.4, 4.5
Goldberger  Chapters 9, 11, 12