Core Topics in Foundation Courses
(updated 11/15/2010)

The members of the faculty of economics believe that certain “core” topics taught in Foundation Courses are essential for preparing students for more advance coursework in economics.

Below you will find a list of core topics for the following Foundation Courses: ECON 201, ECON 212, and ECON 220. Professors teaching these courses are expected to cover core topics in class. Students taking these courses are expected to master core topics before taking a more advanced courses or any 400-level course.

List of Core Topics

A. Intermediate Microeconomics (ECON 201)

1) Math:
   Partial derivatives

2) The Theory of Consumption:
   Budget set
   Assumptions on preferences
   Perfect complements/substitutes
   Indifference curves
   Utility functions
   Marginal utility & Marginal rate of substitution
   Utility maximization problem
   Normal/inferior goods
   Ordinary/giffen goods
   Substitutes/complements
   Income and substitution effects

3) Choice under Risk:

B. Intermediate Macroeconomics (ECON 212)

1) Basic concepts:
   - National income accounts
   - Nominal and real GDP
   - GDP growth
   - Inflation

2) Short run fluctuations:
   - The goods market:
     - autonomous spending
     - the multiplier effect
   - The financial market:
     - money demand

Expected utility
Risk preferences

4) The Theory of Production:
   - Production functions
   - Profit maximization
   - Cost minimization
   - Cost curves
   - Returns to scale

5) Market Structure & Games:
   - Monopoly
   - Oligopoly (Cournot)
   - Payoffs/strategies, Nash Equilibrium,
   - Normal form games and Games in extensive form

The labor market:
   - unemployment rate

Aggregate Supply-Aggregate Demand model
Fiscal and monetary policies

3) Long run growth
   - Solow growth model
   - Endogenous growth model
Policy implications

4) Open economy
   Nominal and real exchange rates
   Balance of payments
   Exchange rate regimes

C. Introduction to Statistical Methods (ECON 220)

1) Statistics and Measurement:
   Population and sample data: statistical inference

2) Frequency distribution, histogram, and scatter diagram
   Measures of location: mean, median, mode
   Measures of variability: range, variance, standard deviation, coefficient of variation; z-scores, empirical rule
   Measures of Association: covariance, correlation

3) Probability, Random Variables, and Expected Values:
   Rules of probability and independence
   Random variables, expected values: mean, variance

4) Discrete Probability Distributions:
   Bernoulli, binomial

5) Continuous Probability Distributions:
   Normal, standard normal
   Student’s-t

6) Estimation and the Sampling Distribution of an Estimator:
   Sampling
   Statistical inference, point estimation
   Sample mean, sample proportion and central limit theorem
   Interval estimation of a population mean
   Interval estimation of a population proportion

7) Hypotheses Testing:
   General principles, Type I and Type II errors
   z and t test of a population mean
   z test of a population proportion

8) Bivariate Relationship and Regression:
   The regression line and least squares estimation
   Statistical inference on the slope and intercept