

# Description of Courses

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## ■ Undergraduate Program

### **ECN201 Microeconomics**

This course introduces students to the basic principles of microeconomics. The main objective of the course is to present students with the tools to understand basic microeconomic concepts, problems, and policies. The core topics include consumer behavior, firm behavior, market equilibrium, and market structure. Additional topics such as welfare economics, public economics, international economics, decision making under uncertainty, and game theory are also covered, depending on the semester.

### **ECN202 Macroeconomics**

Macroeconomics Principles gives students an introduction to the basic economic concepts related to the aggregate economy. They will learn about topics such as gross domestic product (GDP), inflation, unemployment, interest rates, and exchange rates. The course also looks at the various macroeconomic policies at the government's disposal to deal with the various issues that arise in the economy.

### **ECN301 Econometrics**

This course introduces students to various statistical techniques that economists use to estimate, test, and forecast economic relationships. The objective of this course is to provide students with the tools required to evaluate and to carry out empirical research. The course starts with introducing some basic regression models such as OLS, WLS, and GLS. It then moves on to cover more advanced estimation methodologies such as instrumental variable estimation and GMM. Panel data and time series analysis are also covered at the end of the course. Successful completion of this course should allow students to (1) read and critique research papers in economics and related fields, and (2) start their own independent research using economic data.

### **ECN311 Intermediate Microeconomics**

Intermediate Microeconomics offers a rigorous, analytical study of microeconomics. It is designed to give students a deeper understanding of the way our society allocates resources. While it is intended for students who have already taken the microeconomic principles course, that requirement can be waived with the permission of the instructor. The course begins by exploring the consumption and production decision of our society in competitive markets. It continues by looking at the welfare benefits of markets through a general equilibrium analysis. It investigates the impact that various market structures have on equilibrium outcomes, including monopoly, oligopoly, and monopolistic competition. Depending on the semester, additional topics can include, game theory, externalities, asymmetric information, and decision-making under uncertainty. This course provides the necessary theoretical background for students to continue their studies at a top graduate school in economics.

### **ECN312 Intermediate Macroeconomics**

This course introduces mathematical macroeconomic models to understand the broad movements in the global economy. Key topics include long-run economic growth, technological change, booms and recessions, unemployment, inflation, interest rates, monetary and fiscal policy, and economic inequality. The Solow growth model, endogenous growth models, DSGE (Dynamic Stochastic General Equilibrium), and search and matching models in the labor market will be covered. By the end of the course, students should be able to read and understand the discussions of macroeconomic issues in *The Economist*, the *New York Times*, the *Wall Street Journal*, or the economic reports from the Bank of Korea.

### **ECN402 International Economics**

This course provides analytical tools to understand important international economic phenomena

such as fluctuations in national income, balance of payments, exchange rate, inflation, unemployment, interest rate, etc. By the end of the course, students should be able to apply economic theories to major policy questions, past and current, as well as understand theories about international monetary economics.

### **ECN403 Financial Economics**

Activities in financial markets have direct effects on individual's wealth, the behavior of business, and the efficiency of our economy. This course is designed to investigate (i) the role of money on business cycle and inflation, (ii) the structure of financial systems and the foreign exchange markets, and (iii) conduct of monetary policy and budget deficit. (iv) In addition, this course will introduce central concepts of financial economics.

### **ECN413 Industrial Organization**

This course studies the application of microeconomics theory in market and industries. It analyzes market and industries in the paradigm of market structure-conduct-performance. It introduces various concepts of market structure and conduct: (natural) monopoly, contestable markets, entry barrier, economies of scale and scope, firm integration, price discrimination, tied sale, resale price maintenance market foreclosure, and other restraints on transactions. And it studies regulatory issues associated with the efficient and optimal market performances of industries.

### **ECN415 Game Theory**

Game theory is formally a branch of mathematics which has many applications to economics, political science, biology, physics, engineering, operations research, numerical analysis and other areas of mathematics. This is a survey course on the "game theory proper" dealing with rational human behavior in situations of conflict and cooperation. The basic game theoretic models introduced in this course provide a universal framework for building rigorous theoretical models in various social sciences. Topics include strategic form games, multistage games, repeated games, and Shapley value.

### **ECN455 Network Economics**

This course aims to understand basic principles of network economics and study applications of the principles to real economies and business issues. We introduce the network concept, structure, and principles including network externalities, critical mass, excess inertia and excess momentum, increasing returns world, positive feedback, path dependent process, and so on. We apply those principles to various economic, business, and policy issues; technology adoption, standardization, spatial pattern, network trade, discrepancy and instability, systems failure, synchronization, self-organizing, complex network theory, etc.

### **ECN481 Special Topics in Economics**

This course explores special topics of current interest, which can vary from semester to semester. This course may not be offered every year.