ECONOMICS

1019 Milstein Learning Center
212-854-3454
Department Administrator: Regina Roberts

Mission
The primary aim of the Barnard Economics Department is to provide undergraduate liberal arts students with a rigorous, broad, and critical program in theoretical and empirical economics. To achieve this aim our undergraduate liberal arts students with a rigorous, broad, and critical curriculum

- Provides a thorough grounding in neoclassical economic theory, modern statistical method, and their applications in the traditional fields of economic science;
- Embeds that training in a broader conception of economic science and method with special emphasis on philosophical, historical, and institutional approaches that link economics with other social sciences and humanistic disciplines;
- Compares and contrasts alternative methodological approaches and types of evidence as ways of analyzing economic phenomena, evaluating policy debates, and assessing the broader social and political consequences of economic doctrines.

Student Learning Outcomes for the Economics Major, Economics and Political Economy Tracks

Having successfully completed the major in Economics, the student will be able to attain the following outcomes:

1. Show fluency in the basic concepts, models and tools of microeconomic and macroeconomic theory;
2. Think critically about economic phenomena and economic debates by using multiple kinds of texts, evidence and conceptual approaches;
3. Apply economic reasoning to understand the causal determinants of economic events, empirical regularities, and policy proposals;
4. Apply basic skills of empirical reasoning to economic problems;
5. Demonstrate knowledge of the history of economic thought, including important doctrines, their historical context, transformation over time, and influence on contemporary economic theory and ideas;
6. Demonstrate understanding of institutions, organizations and markets in their roles of coordinating economic activity;
7. Demonstrate knowledge of the historical origins of capitalism, modern economic growth and development, patterns of inequality, and globalization;
8. Articulate a well-defined research question and conduct independent research using economic reasoning and evidence;
9. Communicate economic ideas effectively in written or oral form.

Specific to the Economics Track

1. Understand and apply statistical techniques to make inferences about economic hypotheses.

Specific to the Political Economy Track

1. Use concepts or methods from at least one disciplinary approach other than economics to analyze an economic, political or other social problem.

Barnard will allow a total of 3 points AP credit in Economics only if the following conditions are satisfied: an AP score of 4 or 5 in either Macro or Micro (or both), or an International Baccalaureate (IB) score of 5 or higher. However, students who receive AP credit for economics and who go on to pursue any of the economics department majors (or an economics minor) must still take ECON BC1003 Introduction to Economic Reasoning or its equivalent. For Statistics, Barnard will allow 3 points credit with a score of 5 on the Statistics AP exam. Economics track majors, however, will not be exempt from the statistics requirement ECON BC2411 Statistics for Economics or the equivalent, even if they receive 3 points AP credit for Statistics.

Chair: Randall Reback (Professor)
Professors: Elizabeth Ananat (Mallya Professor of Women and Economics), André Burgstaller, Alan Dye, Daniel Hamermesh (Distinguished Scholar), Sharon Harrison, Lalith Munasinghe, Rajiv Sethi, David Weiman (Alena Wels Hirschorn ’58 Professor)
Associate Professors: Ashley Timmer (Adjunct), Homa Zarghamee
Assistant Professors: Belinda Archibong, Martina Jasova, Sonia Pereira (Adjunct), Rena Rosenberg (Adjunct), Elham Saeidinezhad (Term), Anja Tolonen
Adjunct Associate: John Park

Other officers of the University offering courses listed below:

Professors: Alessandra Casella, Yeon-Koo Che, Pierre-Andre Chiappori, Graciela Chichilnisky, Donald Davis, Prajit Dutta, Harrison Hong, Wojciech Kopczuk, Serena Ng, Brendan O’Flaherty, Xavier Sala-i-Martin, Bernard Salanie, Stephanie Schmitt-Grohe, Martin Uribe, Michael Woodford, David Weinstein
Associate Professor: Lena Edlund, Qingmin Liu
Assistant Professors: Michael Best, Andres Drenik, Jack Willis
Lecturers: Irasema Alonso, Tri Vi Dang, Ceyhun Elgin, Susan Elmes, Seyhan Erden, Tamrat Gashaw, Sunil Gulati, Ronald Miller, Wouter Vergote

Requirements for the Major

There are two tracks for the major in Economics equal in rigor, but different in scope and focus. The track in Economics emphasizes modern economic theory along with associated analytical and mathematical tools. The track in Political Economy emphasizes the roots of modern economics in the history of economic thought and the interconnections between social forces, political institutions, and economic power. Either track offers excellent preparation for graduate study in a variety of professional schools and professional careers in many areas, including business and public administration.

Prospective majors should discuss their programs with any member of the department no later than the second semester of their sophomore year. At the time of declaring the major, the student meets with the department chair and chooses a major adviser, who will advise her on the choice of program and courses. Students planning to major in Economics or Political Economy should complete both intermediate macro- and microeconomic theory by the beginning of their junior year.

Students who wish to complete a double or joint major that includes Economics should consult the chair of the department or the major adviser as early as possible. Students interested in pursuing a Ph.D. in economics should take more mathematics than required for the economics major or choose the Economics and Mathematics track.
interdisciplinary major. Any interested student should seek guidance from the Economics and/or Mathematics faculty on which mathematics courses to take.

All majors should file the "Major Requirements Declaration" form, available from the department office by the end of their sophomore year, or as soon as possible thereafter.

**Economics**

The Economics track requires a minimum of 12 courses (36 minimum credits).

<table>
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<tr>
<th>Course Code</th>
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<th>Credits</th>
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<tbody>
<tr>
<td>ECON BC1003</td>
<td>Introduction to Economic Reasoning</td>
<td>3</td>
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<tr>
<td>ECON BC1007</td>
<td>Mathematical Methods for Economics</td>
<td>4</td>
</tr>
<tr>
<td>or MATH UN11201</td>
<td>Calculus III</td>
<td></td>
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<tr>
<td>ECON BC2411</td>
<td>Statistics for Economics</td>
<td>4</td>
</tr>
<tr>
<td>or STAT UN1101</td>
<td>Introduction to Statistics</td>
<td></td>
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<tr>
<td>or PSYC BC1101</td>
<td>STATISTICS LECTURE AND RECITATION</td>
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<tr>
<td>ECON BC3018</td>
<td>ECONOMETRICS</td>
<td>4</td>
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<tr>
<td>ECON BC3033</td>
<td>Intermediate Macroeconomic Theory</td>
<td>4</td>
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<td>ECON BC3035</td>
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</tr>
<tr>
<td>ECON BC3041</td>
<td>Theoretical Foundations of Political Economy</td>
<td>3</td>
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Three electives in economics, two of which must be upper-level (that is, they must have intermediate micro- or macroeconomic theory as a prerequisite).

One of the following two options:

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<tr>
<td>ECON BC3061</td>
<td>Senior Thesis I</td>
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</tr>
<tr>
<td>- ECON BC3062</td>
<td>and Senior Thesis II</td>
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<tr>
<td>ECON BC3063</td>
<td>SENIOR SEMINAR (and an additional upper-level elective in economics)</td>
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* Students will not receive credit for ECON BC1007 Mathematical Methods for Economics if they have already taken ECON BC3035 Intermediate Microeconomic Theory. Such students must instead complete the mathematics requirement by taking MATH UN1201 Calculus III (Calculus III).

**Political Economy**

The Political Economy track major requires a minimum of 13 courses (42 minimum credits).

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Three electives in economics, two of which must be upper-level electives (that is, they must have intermediate micro- or macroeconomic theory as a prerequisite)

Two interdisciplinary electives (see further conditions below)

And one of the following two options:

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**Interdisciplinary Electives**

[NOTE: Statistics is required for Political Economy track majors in the class of 2021 and later. It replaces one of the three interdisciplinary electives formerly required for the class of 2020 and earlier.]

Linking interdisciplinary electives to economics electives: If a course is “linked,” this means that it addresses subject matter that is related to the subject matter of the economics elective to which it is paired. There are many possible ways to link a course to an economics elective. A link to some suggestions from the department website is given below. Whether a course qualifies as a linked course must be approved by the student’s major adviser.

**Related Areas of Study**

**Departments**

- Anthropology
- Asian and Middle Eastern Cultures
- Environmental Science
- History
- Philosophy
- Political Science
- Psychology
- Sociology
- Spanish and Latin American Cultures
- Women's Studies

**Regional or Interdisciplinary Programs**

- Africana Studies
- American Studies
- Human Rights Studies
- Jewish Studies
- Science and Public Policy
- Urban Studies

**Suggestions for Linking Interdisciplinary Electives to Economics Electives**

Follow this link for a list of suggestions for Interdisciplinary Electives that link to Economics Elective Courses. It is NOT an exhaustive list. You should feel free to propose alternative courses that form similar links. All linked courses must be approved by the student’s major adviser.

**Mathematics Training for the Major**

The department expects all majors to have a working knowledge of arithmetic, high school algebra, and the fundamentals of analytic geometry.

Majors in the economics track may complete the mathematics requirement by taking ECON BC1007 Mathematical Methods for Economics, or MATH UN1101 CALCULUS I and MATH UN1201 Calculus III. Students who have received advanced placement credit or have placed out of Calculus I may take either Math Methods or Calculus III to
complete the requirement. (Students with 5 on the Calculus BC test may begin with Calculus III.)

Majors in the political economy track may complete the mathematics requirement by taking ECON BC1007 Mathematical Methods for Economics or MATH UN1101 CALCULUS I. Students who have received advanced placement college credit for calculus have satisfied the mathematics requirement for the political economy track, however they must take an additional economics elective as a substitute for the AP credit so that the total number of courses taken for the major remains the same.

Students interested in pursuing a Ph.D. in economics should take more mathematics than required for the economics major or choose the Economics and Mathematics interdisciplinary major. Any interested student should seek guidance from the Economics and/or Mathematics faculty on which mathematics courses to take.

Requirements for the Minor
The minor in economics consists of five courses, including ECON BC1003 Introduction to Economic Reasoning or equivalent, ECON BC3033 Intermediate Macroeconomic Theory or ECON BC3035 Intermediate Microeconomic Theory, and three electives, one of which must have an intermediate micro- or macroeconomic theory course as a prerequisite.

Introductory Courses
The principles of economics; may be taken without previous study of economics.

ECON BC1003 Introduction to Economic Reasoning. 3 points.

Covers basic elements of microeconomic and macroeconomic reasoning at an introductory level. Topics include Individual Constraints and Preferences, Production by Firms, Market Transactions, Competition, The Distribution of Income, Technological Progress and Growth, Unemployment and Inflation, the Role of Government in the Economy. Note: Students cannot get credit for ECON BC1003 if they have taken the Columbia introductory course ECON W1105 Principles of Economics.

ECON BC1007 Mathematical Methods for Economics. 4 points.
Covers basic mathematical methods required for intermediate theory courses and upper level electives in economics, with a strong emphasis on applications. Topics include simultaneous equations, functions, partial differentiation, optimization of functions of more than one variable, constrained optimization, and financial mathematics. This course satisfies the Calculus requirement for the Barnard Economics major. NOTE: students who have previously taken Intermediate Micro Theory (ECON BC3035 or the equivalent) are *not* allowed to take Math Methods for Economics.

General Courses
May be taken with minimal previous study of economics.

ECON BC2010 The Economics of Gender. 3 points.
Examination of gender differences in the U.S. and other advanced industrial economies. Topics include the division of labor between home and market, the relationship between labor force participation and family structure, the gender earnings gap, occupational segregation, discrimination, and historical, racial, and ethnic group comparisons.
ECON BC2590 Measuring History: Empirical Approaches to Economic and Social History. 4 points.

This course examines big themes in economic and social history—population history and human well-being, inequality and poverty, and gender differences. Using these themes, it adopts a hands-on data-driven approach to introduce tools and concepts of empirical reasoning. Datasets related to each theme create opportunities for learning by doing.

Quantitative Methods
These courses are required for the Economics track and are optional for the Political Economy track.

ECON BC2411 Statistics for Economics. 4 points.

Elementary computational methods in statistics. Basic techniques in regression analysis of econometric models. One-hour weekly recitation sessions to complement lectures.

ECON BC3018 ECONOMETRICS. 4.00 points.
Prerequisites: ECON BC3033 or ECON BC3035, and ECON BC2411 or STAT W1111 or STAT W1211, or permission of the instructor.
Prerequisites: ECON BC3033 or ECON BC3035, and ECON BC2411 or STAT W1111 or STAT W1211, or permission of the instructor.
Specification, estimation and evaluation of economic relationships using economic theory, data, and statistical inference; testable implications of economic theories; econometric analysis of topics such as consumption, investment, wages and unemployment, and financial markets

Core Theory Courses
The courses listed below, required of both Political Economy and Economics track majors, constitute the core of the Barnard Economics major.

ECON BC3033 Intermediate Macroeconomic Theory. 4 points.
Prerequisites: An introductory course in economics and a functioning knowledge of high school algebra and analytical geometry or permission of the instructor.
Systematic exposition of current macroeconomic theories of unemployment, inflation, and international financial adjustments.

ECON BC3035 Intermediate Microeconomic Theory. 4 points.
Prerequisites: An introductory course in microeconomics or a combined macro/micro principles course (ECON BC1003 or ECON W1105, or the equivalent) and one semester of calculus or ECON BC1007, or permission of the instructor.
Preferences and demand; production, cost, and supply; behavior of markets in partial equilibrium; resource allocation in general equilibrium; pricing of goods and services under alternative market structures; implications of individual decision-making for labor supply; income distribution, welfare, and public policy. Emphasis on problem solving.

ECON BC3041 Theoretical Foundations of Political Economy. 3 points.

Prerequisites: An introductory course in economics or permission of the instructor.

Intellectual origins of the main schools of thought in political economy. Study of the founding texts in classical political economy, Marxian economics, neoclassicism, and Keynesianism.

Upper-Level Elective Courses
The following economics elective courses have as a minimum either ECON BC3033, ECON BC3035, or both as prerequisites.

ECON BC3010 American Wellbeing. 3 points.
Prerequisites: (ECON BC 2411 or STAT W1111 or PSYCH BC1101 or BUSI G6014 or STAT W1211 or SIEO W3600 or SIEO W4150) and (ECON BC1003 or ECON W1105) Students using this course for an economics major must have also previously completed either Intermediate Microeconomic Theory (ECON BC3035) or Intermediate Microeconomics (ECON UN3211).
This course takes a novel approach to examining public policy concepts. The class mission is to construct a "U.S. Wellbeing Index," a measure of people’s wellbeing in the United States. The process of constructing such an index and debating its shortcomings will provide students with a better understanding of the factors that should guide public policy decisions. Students successfully completing this course will: (1) develop skills for conducting and interpreting cost-benefit analyses, (2) search the web for relevant economic data and write efficient, well-documented code to download and format those data, (3) interpret time trends for data concerning the economy, human health, and environmental conditions, (4) develop an understanding of how various types of risks affect both individual and societal wellbeing, and (5) understand multiple perspectives in debates over the importance of equity considerations when considering the wellbeing of a society.

ECON BC3011 Inequality and Poverty. 3 points.
Prerequisites: ECON BC3035 or ECON BC3033, or permission of the instructor.
Conceptualization and measurement of inequality and poverty, poverty traps and distributional dynamics, economics and politics of public policies, in both poor and rich countries.

ECON BC3012 Economics of Education. 3 points.
Prerequisites: ECON BC3035 and ECON BC2411 or permission of the instructor.
Analyzes education policies and education markets from an economic perspective. Examines challenges that arise when researchers attempt to identify the causal effects of inputs. Other topics: (1) education as an investment, (2) public school finance, (3) teacher labor markets, (4) testing/accountability programs, (5) school choice programs, and (6) urban public school reforms.
ECON BC3013 Economic History of the United States. 3 points.

Prerequisites: ECON BC3035 or ECON BC3033, or permission of the instructor.
Economic transformation of the United States from a small, open agrarian society in the late colonial era to the leading industrial economy of the 20th century. Emphasis is given to the quantitative, institutional, and spatial dimensions of economic growth, and the relationship between the changing structures of the economy and state.

ECON BC3019 Labor Economics. 3 points.
Prerequisites: ECON BC3035, or permission of the instructor.
Factors affecting the allocation and remuneration of labor; population structure; unionization and monopsony; education and training, mobility and information; sex and race discrimination; unemployment; and public policy.

ECON BC3022 Economic History of Europe. 3 points.
Prerequisites: Econ BC3035 or Econ BC3033 (or their equivalents), or permission of the instructor.
An introduction to the transformative economic developments that began in Western Europe and spread globally. This course applies economic and empirical reasoning to analyze the industrial revolution, its underlying causes and consequences, from pre-modern times to the 20th-century emergence of a global economy.

ECON BC3024 Migration and Economic Change. 3 points.
Prerequisites: Econ BC3035 or Econ BC3033
This course examines a wide variety of topics about migration and its relationship to economic development, globalization, and social and economic mobility. At its core, this course reflects a key reality: that the movement of people—within regions, within countries, and across borders—is both the result of and impetus for economic change.

ECON UN3025 Financial Economics. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213 and STAT UN1201

ECON BC3026 Economics of the Public Sector. 3 points.
Prerequisites: (ECON BC3035 or ECON UN3211)
The purpose of the course is to think about public policy issues through an economic lens. We will explore the basic economic foundations of individual decision-making and discuss the ways in which economists hypothesize that individuals respond to the incentives embedded within public policies. We will pay particular attention to the nature and detail of existing public policies, and use economic analysis to predict how these policies might influence behavior. We will also explore some of the relevant empirical literature on a set of policy topics, to see how these predictions hold up.

ECON BC3029 Empirical Development Economics. 3 points.
Prerequisites: (ECON BC3035 or ECON BC3033) and ECON UN3412
Examines the relationship between real economic variables at the aggregate level and nominal variables (such as the inflation rate, nominal interest rates, nominal exchange rates, and the supply of money). Therefore, monetary economics overlaps significantly with macroeconomics. However, students in this class learn the "Money View" framework as their analytical tool as it provides a more in-depth treatment of money and central banking than is customary in standard macroeconomics textbooks.
ECON BC3048 Introduction to Behavioral Economics. 3 points.
Prerequisites: ECON BC3035
This course reviews the assumption of rationality in microeconomic theory and presents evidence (primarily from experimental psychology and economics) of how judgement and decision-making systematically deviate from what rationality predicts.

ECON BC3098 Guided Research. 1 point.
1 or 2 points
Prerequisites: Instructor’s permission
Provides students with the experience of participating in the research process by matching them to a faculty mentor who will put them to work on one of his or her current research projects.

ECON BC3099 INDEPENDENT STUDY. 1.00-4.00 points.
Prerequisites: ECON BC3033 or ECON BC3035 or permission of the instructor. Topic(s), requirements, workload and point value to be determined in consultation with faculty advisor. Forms available at the Office of the Registrar

ECON UN3265 MONEY AND BANKING. 3.00 points.
Prerequisites: ECON UN3211 and ECON UN3213 or the equivalent.
Introduction to the principles of money and banking. The intermediary institutions of the American economy and their historical developments, current issues in monetary and financial reform

Senior Requirement
Economics majors must take EITHER Senior Thesis I and Senior Thesis II OR a Senior Seminar plus an additional upper-level economics elective.

ECON BC3061 Senior Thesis I. 4 points.
Prerequisites: Permission of the instructor and completion of all courses (except for the senior requirement) required for the economics track, political economy track, or economics and mathematics majors.
Exceptions to these prerequisites may be granted by the chair of the department only.
Tutorials and conferences on the research for and writing of the senior thesis. This is the 1st semester of a two-semester course sequence.

ECON BC3062 Senior Thesis II. 4 points.
Prerequisites: Permission of the instructor and completion of all courses (except for the senior requirement) required for the economics track, political economy track, or economics and mathematics majors.
Exceptions to these prerequisites may be granted by the chair of the department only.
Tutorials and conferences on the research for and writing of the senior thesis. This is the 2nd semester of a two-semester course sequence.

ECON BC3063 SENIOR SEMINAR. 4.00 points.
Prerequisites: Permission of the instructor and the completion of all courses (except for the senior requirement) required for the economics track, political economy track, or economics and mathematics majors.
Exceptions to these prerequisites may be granted by the chair of the department only. Seminar sections are limited to 15 students. A topic in economic theory or policy of the instructors choice. See department for current topics and for senior requirement preference forms

Cross-Listed Courses
Economics
ECON UN1105 Principles of Economics. 4 points.
Corequisites: ECON UN1155
How a market economy determines the relative prices of goods, factors of production, and the allocation of resources and the circumstances under which it does it efficiently. Why such an economy has fluctuations and how they may be controlled.

ECON UN2029 FED Challenge Workshop. 1 point.
Prerequisites: (ECON UN1105)
The workshop prepares students to compete in the annual College Fed Challenge sponsored by the Federal Reserve. Topics covered include macroeconomic and financial conditions, monetary policy, financial stability and the Federal Reserve System.

ECON UN2105 The American Economy. 3 points.
Prerequisites: ECON UN1105
The course surveys issues of interest in the American economy, including economic measurement, well-being and income distribution, business cycles and recession, the labor and housing markets, saving and wealth, fiscal policy, banking and finance, and topics in central banking. We study historical issues, institutions, measurement, current performance and recent research.

STEM BC2223 Computer Programming for the Behavioral Sciences. 4 points.
Students will learn how to write computer programs that can test theories and predictions that arise in the behavioral sciences. For students with little or no programming background.

ECON UN2257 Global Economy. 3 points.
Prerequisites: (ECON UN1105)
The workshop prepares students to compete in the annual College Fed Challenge sponsored by the Federal Reserve. Topics covered include macroeconomic and financial conditions, monetary policy, financial stability and the Federal Reserve System.

ECON UN3025 Financial Economics. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213 and STAT UN1201

ECON UN3211 Intermediate Microeconomics. 4 points.
Prerequisites: ECON UN1105 and MATH UN1101 and (MATH UN1201 or MATH UN1207)
The determination of the relative prices of goods and factors of production and the allocation of resources.
ECON UN3213 Intermediate Macroeconomics. 4 points.
Prerequisites: (MATH UN1101 or MATH UN1207) and ECON UN1105 or the equivalent.
Corequisites: MATH UN1201
This course covers the determination of output, employment, inflation and interest rates. Topics include economic growth, business cycles, monetary and fiscal policy, consumption and savings and national income accounting.

ECON UN3265 MONEY AND BANKING. 3.00 points.
Prerequisites: ECON UN3211 and ECON UN3213 or the equivalent. Introduction to the principles of money and banking. The intermediary institutions of the American economy and their historical developments, current issues in monetary and financial reform

ECON UN3412 Introduction To Econometrics. 4 points.
Prerequisites: (ECON UN3211 or ECON UN3213) and (MATH UN1201 or MATH UN1207) and STAT UN1201
Modern econometric methods; the general linear statistical model and its extensions; simultaneous equations and the identification problem; time series problems; forecasting methods; extensive practice with the analysis of different types of data.

ECON GU4020 Economics of Uncertainty and Information. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213 and STAT UN1201
Topics include behavior uncertainty, expected utility hypothesis, insurance, portfolio choice, principle agent problems, screening and signaling, and information theories of financial intermediation.

ECON GU4211 ADVANCED MICROECONOMICS. 4.00 points.
Prerequisites: ECON UN3211 and ECON UN3213 and MATH UN2010
Students must register for required discussion section.
Corequisites: MATH UN2500,MATH GU4061
Prerequisites: ECON UN3211 and ECON UN3213 and MATH UN2010
Students must register for required discussion section. Corequisites: MATH UN2500 or MATH GU4061
The course provides a rigorous introduction to microeconomics. Topics will vary with the instructor but will include consumer theory, producer theory, general equilibrium and welfare, social choice theory, game theory and information economics. This course is strongly recommended for students considering graduate work in economics. Discussion section required

ECON GU4213 Advanced Macroeconomics. 4 points.
Prerequisites: ECON UN3211 and ECON UN3213 and MATH UN3412 and MATH UN2010 Required discussion section ECON GU4214
An introduction to the dynamic models used in the study of modern macroeconomics. Applications of the models will include theoretical issues such as optimal lifetime consumption decisions and policy issues such as inflation targeting. This course is strongly recommended for students considering graduate work in economics.

ECON GU4228 Urban Economics. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213

ECON GU4230 Economics of New York City. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213 and STAT Un1201
This course takes New York as our laboratory. Economics is about individual choice subject to constraints and the ways that choices sum up to something often much more than the parts. The fundamental feature of any city is the combination of those forces that bring people together and those that push them apart. Thus both physical and social space will be central to our discussions. The underlying theoretical and empirical analysis will touch on spatial aspects of urban economics, regional, and even international economics. We will aim to see these features in New York City taken as a whole, as well as in specific neighborhoods of the city. We will match these theoretical and empirical analyses with readings that reflect close observation of specific subjects. The close observation is meant to inspire you to probe deeply into a topic in order that the tools and approaches of economics may illuminate these issues in a fresh way.

ECON GU4251 Industrial Organization. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213
The study of industrial behavior based on game-theoretic oligopoly models. Topics include pricing models, strategic aspects of business practice, vertical integration, and technological innovation.

ECON GU4280 CORPORATE FINANCE. 3.00 points.
Prerequisites: ECON UN3211 and ECON UN3213 and STAT UN1201
Prerequisites: ECON UN3211 and ECON UN3213 and STAT UN1201
An introduction to the economics principles underlying the financial decisions of firms. The topics covered include bond and stock valuations, capital budgeting, dividend policy, market efficiency, risk valuation, and risk management. For information regarding REGISTRATION for this course, go to: http://econ.columbia.edu/registration-information

ECON GU4301 ECONOMIC GROWTH # DEVELOPMENT I. 3.00 points.
Prerequisites: ECON UN3211 and ECON UN3213
Economic development is a complex and multifaceted process. Once considered a goal in itself, more recently it has become to be viewed as the fundamental means to world poverty alleviation. Today, about half of the world population still lives on less than $2/day. Why? What does it mean to be poor? What are the forces that prevent so many people from enjoying a higher standard of living? The course opens on some fundamental macroeconomic models of economic growth and the recent debate on the geographical or institutional nature of the ultimate causes of growth or arrested development. Then we will move into the most recent microeconomic literature that sheds light on the lives of the poor and on the forces - in particular the market distortions and the market failures - that keep billions in poverty. Among others, we will discuss interesting topics like nutrition and health, the cultural origins of corruption, the effect of global warming, and the design of effective anti-poverty programs

ECON GU4321 Economic Development. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213
Historical comparative examination of the economic development problems of the less developed countries; the roles of social institutions and human resource development; the functions of urbanization, rural development, and international trade.
ECON GU4325 Economic Organization and Development of Japan. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213
The growth and structural changes of the post-World War II economy; its historical roots; interactions with cultural, social, and political institutions; economic relations with the rest of the world.

ECON GU4370 Political Economy. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213 and STAT UN1201 or POLS 4710 for those who declared prior to Spring 2014.
The objective of this course is to develop understanding of how political institutions and behavior shape economic outcomes, and vice versa. Starting from the micro level study of political behavior, we will build up to analyze the internal workings of institutions and ultimately macro level economic and political outcomes. During the course we will cover the following topics:

- Limits and potential of markets
- Public goods provision
- Voting
- Redistribution

ECON GU4400 Labor Economics. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213
The labor force and labor markets, educational and man power training, unions and collective bargaining, mobility and immobility, sex and race discrimination, unemployment.

ECON GU4412 Advanced Econometrics. 4 points.
Prerequisites: ECON UN3211 and ECON UN3213 and ECON UN3412 and MATH UN2010 Students must register for required discussion section.
The linear regression model will be presented in matrix form and basic asymptotic theory will be introduced. The course will also introduce students to basic time series methods for forecasting and analyzing economic data. Students will be expected to apply the tools to real data.

ECON GU4415 Game Theory. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213
Introduction to the systematic treatment of game theory and its applications in economic analysis.

ECON GU4465 Public Economics. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213

ECON GU4480 Gender and Applied Economics. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213
This course studies gender gaps, their extent, determinants and consequences. The focus will be on the allocation of rights in different cultures and over time, why women’s rights have typically been more limited and why most societies have traditionally favored males in the allocation of resources.

ECON GU4500 International Trade. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213
The theory of international trade, comparative advantage and the factor endowments explanation of trade, analysis of the theory and practice of commercial policy, economic integration. International mobility of capital and labor; the North-South debate.

ECON GU4750 Globalization and Its Risks. 3 points.
Prerequisites: ECON UN3211 and ECON UN3213
The world is being transformed by dramatic increases in flows of people, goods and services across nations. Globalization has the potential for enormous gains but is also associated to serious risks. The gains are related to international commerce where the industrial countries dominate, while the risks involve the global environment, poverty and the satisfaction of basic needs that affect in great measure the developing nations. Both are linked to a historical division of the world into the North and the South-the industrial and the developing nations. Key to future evolution are (1) the creation of new markets that trade privately produced public goods, such as knowledge and greenhouse gas emissions, as in the Kyoto Protocol; (2) the updating of the Breton Woods Institutions, including the creation of a Knowledge Bank and an International Bank for Environmental Settlements.

Industrial Engineering and Operations Research
IEOR E2261 ACCOUNTING AND FINANCE. 3.00 points.
Lect: 3.
Prerequisites: (ECON UN1105)
For undergraduates only. Examines the fundamental concepts of financial accounting and finance, from the perspective of both managers and investors. Key topics covered include principles of accrual accounting; recognizing and recording accounting transactions; preparation and analysis of financial statements; ratio analysis; pro-forma projections; time value of money (present values, future values and interest/discount rates); inflation; discounted-cash-flow (DCF) project evaluation methods; deterministic and probabilistic measures of risk; capital budgeting