ECONOMICS

Departmental Notes
Subject Code for Applied Economics: APEC
Subject Code for Economics: ECON
Subject Code for Politics-Philosophy-Economics: PPEC
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Overview
The Economics Department at Queen's has a long tradition as one of Canada's leading teaching and research centres in economics. The undergraduate programs we offer promote a comprehensive investigation of many aspects of the subject, with an emphasis on contemporary analytical principles and methods. Those who pursue a concentration in economics or applied economics will take courses in advanced economic analysis, statistical techniques, the historical background of today's economies, and the application of economic theory to public finance, international relations, natural resources and the environment, business cycles, labour markets, and the economic systems of other countries. Economics students at Queen's acquire a diverse portfolio of analytical, quantitative, computational, and communications skills that provide excellent preparation for a wide range of post-graduation education and career opportunities. Our recent graduates have pursued graduate studies in economics and professional programs such as finance, business administration, public administration, law, industrial relations, information technology, and resource management, and they have embarked on careers in the private sector, with non-governmental organizations and with the public sector in key positions of responsibility at all three levels of government.

Advice to Students
First Year Mathematics
All Economics Plans require a supporting course in first year calculus. Normally this course is taken in first year. Students choose MATH 126 Differential and Integral Calculus (for those without any prior knowledge of calculus) or MATH 121 Differential and Integral Calculus (for those who have taken calculus in high school). The calculus courses MATH 120 Differential and Integral Calculus or (MATH 123 Differential and Integral Calculus I and MATH 124 Differential and Integral Calculus II) may also be accepted. Note that first year calculus is a corequisite for ECON 212 Microeconomic Theory I, ECON 222 Macroeconomic Theory I, and ECON 250 Introduction to Statistics and a prerequisite for ECON 255 Introduction to Mathematical Economics and all third- and fourth-year economics courses.

Elective Courses
The Department provides several options for students studying other subjects who wish to take one or more courses in economics. Students wishing to take a 200-level course should take ECON 111 Introductory Microeconomics or ECON 112 Introductory Macroeconomics as required, followed by the 200-level course of interest. All Economics Plans require ECON 110 Principles of Economics, or ECON 111 Introductory Microeconomics and ECON 112 Introductory Macroeconomics.

Special Study Opportunities
Study Abroad Option at the Bader International Study Centre (https://www.queensu.ca/bisc/) (BISC) or on Exchange
Economics Majors and Medials who plan to attend the BISC or go on exchange should do so before their fourth year. These students should plan to have completed by the end of their third year:

1. a total of at least 84.0 units;
2. all 300-level ECON courses required for their Plan, with particular emphasis on ECON 310 Microeconomic Theory II, ECON 320 Macroeconomic Theory II and ECON 351 Introductory Econometrics;
3. at least 42.0 ECON units in the case of ECON and APEC Majors, and at least 27.0 ECON units in the case of ECON Medials.

Faculty
www.econ.queensu.ca/people/faculty/ruqu-wang/}
• Economics – General (Arts) – Bachelor of Arts (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/economics/economics-general-arts-ba/)
• Economics – Major (Arts) – Bachelor of Arts (Honours) (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/economics/economics-major-arts-ba-honours/)
• Economics – Medial (Arts) – Bachelor of Arts (Honours) (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/economics/economics-medial-arts-ba-honours/)
• Economics – Minor (Arts) (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/economics/economics-minor-arts/)
• Politics, Philosophy and Economics – Specialization (Arts) – Bachelor of Arts (Honours) (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/economics/politics-philosophy-economics-specialization-arts-ba-honours/)

Courses

ECON 110 Principles of Economics Units: 6.00
An introduction to economic analysis of a modern mixed economy, including the roles of government. The microeconomics part of the course analyzes the behaviour of individual consumers and producers and the functioning of the market price system. The macroeconomics part examines the functioning of the economy as a whole, including the determination of national income, the price level, interest rates, the money supply, and the balance of payments.
LEARNING HOURS 240 (72L;24O;144P).
Requirements: Prerequisite None. Exclusion ECON 111; ECON 112.
Offering Faculty: Faculty of Arts and Science

ECON 111 Introductory Microeconomics Units: 3.00
An introduction to microeconomic analysis of a modern mixed economy. The course analyzes the behaviour of individual consumers and producers, the determination of market prices for commodities and resources, and the role of government policy in the functioning of the market system.
NOTE Also offered online. Consult Arts and Science Online.
Learning Hours may vary.
NOTE Also offered at the Bader International Studies Centre, Herstmonceux. Learning Hours may vary.
LEARNING HOURS 120 (36L;12O;72P).
Requirements: Prerequisite None. Exclusion ECON 110. Note (ECON 111 and ECON 112) are equivalent to ECON 110.
Offering Faculty: Faculty of Arts and Science

Programs

• Applied Economics – Major (Arts) – Bachelor of Arts (Honours) (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/economics/applied-economics-major-arts-ba-honours/)
• Economics – General (Arts) – Bachelor of Arts (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/economics/economics-general-arts-ba/)
• Economics – Major (Arts) – Bachelor of Arts (Honours) (https://queensu-ca-public.courseleaf.com/arts-science/
**ECON 112  Introductory Macroeconomics**  
Units: 3.00  
An introduction to macroeconomic analysis of the economy as a whole, including the determination of national income, the price level, interest rates, the money supply, and the balance of payments. The principles of monetary and fiscal policy are also examined.  
NOTE Also offered online. Consult Arts and Science Online, Learning Hours may vary.  
NOTE Also offered at the Bader International Studies Centre, Herstmonceux, Learning Hours may vary.  
LEARNING HOURS 120 (36L;12O;72P).  
Requirements: Prerequisite None. Exclusion ECON 110. Note (ECON 111 and ECON 112) are equivalent to ECON 110.  
Offering Faculty: Faculty of Arts and Science  

**ECON 212  Microeconomic Theory I**  
Units: 3.00  
Theory of markets and prices: decision-making by individuals and firms, equilibrium conditions under various market structures, and issues of individual and social welfare. This course presumes a knowledge of calculus at the first-year university level.  
NOTE A grade of C in this course is required as a prerequisite for ECON 310/3.0.  
NOTE Also offered online. Consult Arts and Science Online. Learning Hours may vary.  
LEARNING HOURS 120 (36L;6G;78P).  
Requirements: Prerequisite ECON 110 or (ECON 111 and ECON 112). Corequisite (MATH 120 or MATH 121 or (MATH 123 and MATH 124) or MATH 126 or APSC 172 or COMM 161).  
Offering Faculty: Faculty of Arts and Science  

**ECON 222  Macroeconomic Theory I**  
Units: 3.00  
A study of the basic models of national income determination and financial markets. The course includes application to policy problems such as inflation, unemployment and balance of payments disequilibria.  
NOTE A grade of C in this course is required as a prerequisite for ECON 320/3.0.  
LEARNING HOURS 120 (36L;6G;78P).  
Requirements: Prerequisite ECON 110 or (ECON 111 and ECON 112). Corequisite (MATH 120 or MATH 121 or (MATH 123 and MATH 124) or MATH 126 or APSC 172 or COMM 161).  
Offering Faculty: Faculty of Arts and Science  

**ECON 223  Macroeconomic Policy**  
Units: 3.00  
Current topics in macroeconomic policy which may include: unemployment and policies to reduce it, government budget deficits, supply-side controversies, financial deregulation, policy coordination, and management of exchange rates. Comparison of policies in Canada, the United States, and other OECD countries.  
NOTE Also offered online. Consult Arts and Science Online, Learning Hours may vary.  
LEARNING HOURS 120 (24L;12G;48O;36P).  
Requirements: Prerequisite ECON 110 or ECON 112.  
Offering Faculty: Faculty of Arts and Science  

**ECON 225  The Economics of the European Community**  
Units: 3.00  
This course will focus on two major topics: a) the process of economic integration towards a common market in Europe; and b) the coordination of macroeconomic policy within Europe, the operation of the European Monetary System and the movement towards European Union.  
NOTE Offered only at the Bader International Study Centre, Herstmonceux.  
LEARNING HOURS 120 (24L;24Oc;60P).  
Requirements: Prerequisite ECON 110 or ECON 112.  
Offering Faculty: Faculty of Arts and Science  

**ECON 231  Emergence of the Modern Industrial Economy**  
Units: 3.00  
An examination of the origins of modern economic growth concentrating on the industrial revolution in Britain and the prior developments leading up to it. Some attention is directed to the early followers of the changes initiated in Britain.  
LEARNING HOURS 120 (36L;6G;78P).  
Requirements: Prerequisite ECON 110 or ECON 111.  
Offering Faculty: Faculty of Arts and Science  

**ECON 232  The Diffusion of Modern Economic Growth**  
Units: 3.00  
The spread of industrialization and economic development in Europe and areas beyond in the late 19th and early 20th centuries. The geographic focus may differ from year to year but Germany, Russia and Japan are usually included.  
LEARNING HOURS 120 (36L;6G;78P).  
Requirements: Prerequisite ECON 110 or ECON 111.  
Offering Faculty: Faculty of Arts and Science
ECON 239  Economic Development  Units: 3.00
A survey of the various economic theories and models elaborating the process of development. The course considers the meaning of economic development; the fundamental analytics of economic growth; the barriers to growth; balanced and unbalanced strategies of growth; population, employment and technology problems; foreign-trade and foreign aid issues.
LEARNING HOURS 120 (36L;6G;78P).
Requirements: Prerequisite ECON 110 or ECON 111.
Offering Faculty: Faculty of Arts and Science

ECON 240  Canadian Tax Policy  Units: 3.00
The incentive effects of taxes on the allocation of resources in the economy and their impact on the distribution of wealth in Canada. Reviews Canadian tax policy and evaluates the effects of various federal and provincial taxes on the behaviour of households and firms.
LEARNING HOURS 120 (36L;6G;78P).
Requirements: Prerequisite ECON 110 or ECON 111.
Offering Faculty: Faculty of Arts and Science

ECON 241  Economic Aspects of Selected Social Issues  Units: 3.00
An application of economic analysis to a selection of public policy issues. The topics covered will vary from year to year, but examples include regulation of agricultural and industrial markets, health economics, trade policy, natural resource policy, property rights and the 'external' effects of private activities. This course should be of special interest to students of law, political studies and sociology as well as economics.
LEARNING HOURS 120 (36L;6G;78P).
Requirements: Prerequisite ECON 110 or ECON 111.
Offering Faculty: Faculty of Arts and Science

ECON 243  The Economics of Health Care  Units: 3.00
An economic analysis of modern health care institutions, organizations, and markets, both generically and in the Canadian context. A discussion of current Canadian health policy debates and various policy options and reform proposals.
NOTE Also offered online. Consult Arts and Science Online, Learning Hours may vary.
LEARNING HOURS 120 (36L;12G;12O;60P).
Requirements: Prerequisite ECON 110 or ECON 111.
Offering Faculty: Faculty of Arts and Science

ECON 244  Economics of Indigenous Communities  Units: 3.00
An economic critique of policies past and present with regard to First Nations, Inuit, and Métis peoples living in Canada, with reference to relevant cultural, historic, geographic, and governance contexts. In some years, material may be more comparative and international in scope.
LEARNING HOURS 120 (324;12G;48O;36P).
Requirements: Prerequisite ECON 110 or ECON 111.
Offering Faculty: Faculty of Arts and Science

ECON 245  Introduction to Statistics  Units: 3.00
Statistical methods as used in economics. This course introduces statistical hypothesis testing and covers basic methods as far as linear regression analysis.
NOTE A grade of C in this course is required as a prerequisite for ECON 351/3.0.
LEARNING HOURS 120 (36L;12I;72P).
Requirements: Prerequisite ECON 110 or (ECON 111 and ECON 112). Corequisite (MATH 120 or MATH 121 or [MATH 123 and MATH 124] or MATH 126). Exclusion BIOL 243; CHEE 209; COMM 162; GPHY 247; KNPE 251; NURS 323; PHED 251; POLS 385; PSYC 202; SOCY 211; STAM 200; STAT 263; STAT 267; STAT 367.
Offering Faculty: Faculty of Arts and Science

ECON 250  Introduction to Mathematical Economics  Units: 3.00
An introduction to the use of mathematics in economic analysis. The first part of the course will concentrate on techniques for constrained and unconstrained optimization, as applied to problems of firm and consumer behaviour. This will lead to the interpretation of Lagrange multipliers as shadow prices. The second part of the course will show how matrix algebra may be used to study problems of production and allocation in interdependent economies.
LEARNING HOURS 120 (36L;84P).
Requirements: Prerequisite (ECON 110 or [ECON 111 and ECON 112]) and (MATH 120 or MATH 121 or [MATH 123 and MATH 124] or MATH 126 or [APSC 171 and APSC 172]).
Offering Faculty: Faculty of Arts and Science

ECON 255  Canadian Labour Relations  Units: 3.00
An analysis of the Canadian labour relations system in an economic setting. The socio-economic institutional framework of the industrial and collective bargaining system in Canada provides the background for an analysis of some major emerging issues, such as white collar unionism, unions in the public sector, the public interest in emergency disputes, and the impact of technological change.
LEARNING HOURS 120 (36L;9G;75P).
Requirements: Prerequisite ECON 110 or ECON 111.
Offering Faculty: Faculty of Arts and Science

ECON 261  Canadian Labour Relations  Units: 3.00
An analysis of the Canadian labour relations system in an economic setting. The socio-economic institutional framework of the industrial and collective bargaining system in Canada provides the background for an analysis of some major emerging issues, such as white collar unionism, unions in the public sector, the public interest in emergency disputes, and the impact of technological change.
LEARNING HOURS 120 (36L;9G;75P).
Requirements: Prerequisite ECON 110 or ECON 111.
Offering Faculty: Faculty of Arts and Science
ECON 262 Labour Market and Gender Differences  Units: 3.00
A Canadian perspective on labour market theories, trends, policies and the analysis of differences by gender in labour demand, labour supply, and wages.
LEARNING HOURS 120 (36L;6G;78P).
Requirements: Prerequisite ECON 110 or ECON 111.
Offering Faculty: Faculty of Arts and Science

ECON 280 Population and Economic Change Units: 3.00
An examination of the interrelationships between changes in the size, composition and distribution of population and changes in the economy. Application is made of some elementary concepts of economic theory and some basic techniques of demographic analysis are introduced. Illustrations are drawn from both the Canadian and the international settings.
LEARNING HOURS 120 (12L;24G;36O;48P).
Requirements: Prerequisite ECON 110 or ECON 111.
Offering Faculty: Faculty of Arts and Science

ECON 290 Environmental Economics and Assessment Units: 3.00
An examination of the economic principles and practices for using environmental resources such as air, water, and natural environments. The economically optimal use of these resources is contrasted with actual uses in modern economies. Government policies are examined in theory and in practice. Cost benefit analysis is presented as a technique for evaluating public sector projects using environmental resources.
LEARNING HOURS 120 (36L;18G;66P).
Requirements: Prerequisite ECON 110 or ECON 111.
Offering Faculty: Faculty of Arts and Science

ECON 310 Microeconomic Theory II Units: 3.00
A rigorous examination of the central core of microeconomic theory. Consumer demand, the theory of production, product and factor markets, general equilibrium and some aspects of welfare economics are covered. The emphasis is on techniques of analysis.
LEARNING HOURS 120 (36L;84P).
Requirements: Prerequisite (A minimum grade of a C in ECON 212) and ECON 255 and (MATH 120 or MATH 121 or [MATH 123 and MATH 124] or MATH 126).
Offering Faculty: Faculty of Arts and Science

ECON 320 Macroeconomic Theory II Units: 3.00
An advanced study of the determinants of aggregate demand and the structure of Keynesian and new classical models. Policy issues covered include crowding out, choice of monetary policy instruments, and monetary policy and the exchange rate.
LEARNING HOURS 120 (30L;6G;60;78P).
Requirements: Prerequisite (A minimum grade of a C in ECON 222) and ECON 255 and (MATH 120 or MATH 121 or [MATH 123 and MATH 124] or MATH 126).
Offering Faculty: Faculty of Arts and Science

ECON 322 Financial Markets and Risk Management Units: 3.00
An in-depth coverage of portfolio selection theory, performance evaluation and derivative pricing theory. Portfolio risk management and hedging are introduced. Discussions on widely used derivative products including futures and options. Students will be exposed to the most recent developments in financial markets.
LEARNING HOURS 120 (36L;12G;72P).
Requirements: Prerequisite ECON 212 and (ECON 250 or STAT 263) and (MATH 120 or MATH 121 or [MATH 123 and MATH 124] or MATH 126). Exclusion COMM 324.
Offering Faculty: Faculty of Arts and Science

ECON 325 International Trade Policy Units: 3.00
An introduction to the theory of comparative advantage followed by a study of trade policies in developed and developing countries including tariffs and quotas, licensing arrangements, anti-dumping and safeguard mechanisms, domestic content rules and other non-tariff barriers, and multilateral arrangements.
LEARNING HOURS 120 (36L;6G;78P).
Requirements: Prerequisite ECON 212.
Offering Faculty: Faculty of Arts and Science

ECON 331 Economic History of North America to 1865 Units: 3.00
Uses the methods of economic analysis to examine the main features of the development of Canada before Confederation and the United States through the Civil War.
LEARNING HOURS 120 (36L;6G;78P).
Requirements: Prerequisite ECON 212.
Offering Faculty: Faculty of Arts and Science

ECON 332 Economic History of North America since 1865 Units: 3.00
The development of the economies of Canada from Confederation and the U.S. since the Civil War. A comparative approach to the development of the two economies is taken.
LEARNING HOURS 120 (36L;6G;78P).
Requirements: Prerequisite ECON 212.
Offering Faculty: Faculty of Arts and Science
ECON 348 Law and Economics Units: 3.00
Costs and benefits of legal rules. Among the topics covered are: the justification, acquisition, scope and taking by the state of property rights, the enforcement of and remedies for breach of contract, the assignment of liability in traffic accidents and harm from dangerous products, the costs of litigation and the optimal severity of punishment for crime with special reference to the death penalty.
LEARNING HOURS 120 (36L;84P).
Requirements: Prerequisite ECON 212.
Offering Faculty: Faculty of Arts and Science

ECON 351 Introductory Econometrics Units: 3.00
Estimation and inference in multivariate econometric models. Emphasizes understanding of methods and their properties as distinct from formal theoretical development. Practical tools for preparing and analyzing data with appropriate models are taught using econometric software.
LEARNING HOURS 120 (36L;6G;78P).
Requirements: Prerequisite (A minimum grade of a C in [ECON 250 or STAT 263]) and (MATH 120 or MATH 121 or [MATH 123 and MATH 124] or MATH 126). Corequisite ECON 255. Exclusion STAT 361.
Offering Faculty: Faculty of Arts and Science

ECON 354 Computational Methods in Economics and Finance Units: 3.00
An introduction to numerical methods as used in economics, finance, and related fields. Topics include optimization, nonlinear systems, numerical approximation, and simulation. Includes a major project where students implement economic models or replicate work found in the literature.
LEARNING HOURS 120 (36L;18G;66P).
Requirements: Prerequisite ECON 255. Corequisite (ECON 250 or STAT 263). Note Programming experience is recommended but not required. Students with a strong math or computing background can contact the Department for permission to enroll.
Offering Faculty: Faculty of Arts and Science

ECON 360 Labour Economics Units: 3.00
An analytical course covering topics in labour supply analysis, the economics of human capital, labour demand, the operation of labour markets, the economic behaviour and effect of unions, and selected aspects of wage structure.
LEARNING HOURS 120 (36L;84P).
Requirements: Prerequisite ECON 212.
Offering Faculty: Faculty of Arts and Science
ECON 391  Topics in Environmental Economics  Units: 3.00
This course provides a solid understanding of the economic causes and consequences of environmental problems and suggests practical solutions. Microeconomic analysis is used to help address a range of issues related to the environment. Likely topics include global environmental problems, sustainable development, environmental law, strategic models of regulation, environmental ethics, and bioeconomic models. LEARNING HOURS 120 (36L;6G;78P).
Requirements: Prerequisite ECON 212.
Offering Faculty: Faculty of Arts and Science

ECON 411  Topics in Microeconomic Theory  Units: 3.00
Content varies from year to year. Game theory, risk, and externalities are among the topics covered in recent years. LEARNING HOURS 120 (36L;84P).
Requirements: Prerequisite ECON 310.
Offering Faculty: Faculty of Arts and Science

ECON 421  Topics in Macroeconomics Theory  Units: 3.00
An advanced discussion of selected topics in macroeconomic theory, policy, and evidence. Analysis uses: two-period models; linear, rational expectations models; overlapping generations models; and the neoclassical growth model. These methods are applied to such topics as: asset-pricing; hyperinflation; exchange-rate overshooting; Ricardian equivalence; international evidence on sources of economic growth. Detailed reference is made to empirical evidence. LEARNING HOURS 120 (36L;84P).
Requirements: Prerequisite ECON 310 and ECON 320.
Offering Faculty: Faculty of Arts and Science

ECON 422  Monetary Economics  Units: 3.00
Topics in monetary theory and policy, depending upon the interests of the instructor and students. Examples include the foundations of monetary theory; money supply and demand; portfolio choice; monetary aspects of the balance of payments; money and economic growth; financial markets; the term structure of interest rates. LEARNING HOURS 120 (36L;6G;78P).
Requirements: Prerequisite ECON 310.
Offering Faculty: Faculty of Arts and Science

ECON 423  Topics in Financial Economics  Units: 3.00
Selected topics in financial economics. Topics may include: the microeconomics of banking; pricing of financial instruments; risk management and financial markets infrastructure; financial choices under uncertainty and general equilibrium. Students are directed to the undergraduate website for a detailed description yearly. LEARNING HOURS 120 (36L;84P).
Requirements: Prerequisite ECON 310. Corequisite ECON 351.
Offering Faculty: Faculty of Arts and Science

ECON 425  International Trade Theory and Policy  Units: 3.00
A rigorous treatment of the major issues in international trade theory, using mainly geometrical tools. There is also emphasis on empirical testing of various hypotheses. The major topics covered are the determinants of international trade patterns, commercial policy issues, trade and economic growth and regional integration. LEARNING HOURS 120 (36L;6G;6O;72P).
Requirements: Prerequisite ECON 310.
Offering Faculty: Faculty of Arts and Science

ECON 426  International Macroeconomics  Units: 3.00
The study of international capital flows, sovereign debt, and international risk-sharing; real exchange rates and international goods pricing; topics in international finance such as exchange-rate modeling and speculative attacks; and policy topics such as fiscal and monetary policy effects and exchange-rate regime choice. LEARNING HOURS 120 (36L;12I;72P).
Requirements: Prerequisite ECON 310 and ECON 320.
Offering Faculty: Faculty of Arts and Science

ECON 430  Issues in Economic History  Units: 3.00
An advanced course in economic history that explores a selection of topics debated in the literature. An emphasis is placed on the use of economic analysis to deal with historical issues. The topics vary from year to year and usually concern mainly, but not exclusively, North America. Offered concurrently with ECON 831. LEARNING HOURS 120 (36L;84P).
Requirements: Prerequisite ECON 231 or ECON 232 or ECON 331 or ECON 332. Corequisite (ECON 310 and ECON 351).
Offering Faculty: Faculty of Arts and Science

ECON 433  Issues in Microeconomic Policy  Units: 3.00
Offering Faculty: Faculty of Arts and Science
ECON 435  Development Economics  Units: 3.00
Microeconomic issues: land, labor, credit, and insurance markets; duality; alternate views of the role and evolution of non-market institutions in the development process. Macroeconomic issues: urban migration; inequality and development; population growth and technical change; internal factor accumulation versus TFP growth. Offered concurrently with ECON 835.
LEARNING HOURS 120 (36L;84P).
Requirements: Prerequisite ECON 310 and permission of the Department. Corequisite ECON 351.
Offering Faculty: Faculty of Arts and Science

ECON 437  Cost-Benefit Analysis  Units: 3.00
A course covering the techniques and applications of cost-benefit analysis and project evaluation. Topics include the foundations of cost-benefit analysis; investment decision rules; the social discount rate; risk and uncertainty; and the shadow pricing of inputs. Objectives such as income distribution and macro-economic goals are also considered.
LEARNING HOURS 120 (36L;6G;78P).
Requirements: Prerequisite ECON 255 and ECON 310 and permission of the Department.
Offering Faculty: Faculty of Arts and Science

ECON 440  Public Economics  Units: 3.00
The study of public goods, redistribution of income, and taxation, with emphasis on efficiency and equality as criteria for decision-making in the public sector.
LEARNING HOURS 120 (36L;60;78P).
Requirements: Prerequisite ECON 310.
Offering Faculty: Faculty of Arts and Science

ECON 442  Topics in Public Economics  Units: 3.00
Selected topics in the theory of public economics and related policy questions. Content varies from year to year. Topics may include: the role of asymmetric information in public economics, tax policy, design of redistributive programs, fiscal federalism, and selected aspects of Canadian public policy. Students are directed to the undergraduate website for a detailed description.
LEARNING HOURS 120 (36L;84P).
Requirements: Prerequisite ECON 310.
Offering Faculty: Faculty of Arts and Science

ECON 443  Issues in Microeconomics Policy  Units: 3.00
Selected topics in microeconomic policy. Topics may include: climate change, health economics, national security (defense economics), globalization and/or regional development, and demographic change. Students are directed to the undergraduate website for a detailed description.
LEARNING HOURS 120 (36L;18G;66P).
Requirements: Prerequisite ECON 310. Exclusion ECON 443 (Topic Title: Principles Neuroeconomics); PSYC 398 (Topic Title: Behavioural Neuroeconomics).
Offering Faculty: Faculty of Arts and Science

ECON 445  Industrial Organization and Public Policy  Units: 3.00
An analysis of industry structure, conduct and performance in the Canadian economy, including the major features and current issues of competition policy.
LEARNING HOURS 120 (36;6G;78P).
Requirements: Prerequisite ECON 310.
Offering Faculty: Faculty of Arts and Science

ECON 450  Topics in Advanced Econometrics  Units: 3.00
Selected topics in econometric methods and their application. Topics may include machine learning, autoregressive models, vector autoregression, unit roots and cointegration, and both cross-section and panel data estimation techniques. Students are directed to the undergraduate website for a detailed description.
LEARNING HOURS 120 (36L;6G;78P).
Requirements: Prerequisite ECON 351.
Offering Faculty: Faculty of Arts and Science

ECON 452  Applied Econometrics  Units: 3.00
Emphasizes problems in specifying and estimating econometric models, methods available for detecting and handling these problems, and economic applications. Extensive use of matrix algebra.
LEARNING HOURS 120 (36L;12G;72P).
Requirements: Prerequisite ECON 255 and (ECON 351 or STAT 361).
Offering Faculty: Faculty of Arts and Science

ECON 455  Mathematical Economics  Units: 3.00
Applications of mathematics in economic analysis. Topics covered will generally include a review of optimization techniques as applied to consumer and producer theory, comparative statics, the envelope theorem, duality theory, welfare economics and general equilibrium theory. Optimization techniques to be covered will include nonlinear and dynamic programming. Offered concurrently with ECON 855.
LEARNING HOURS 120 (36L;12G;72P).
Requirements: Prerequisite ECON 255 and ECON 310 and permission of the Department.
Offering Faculty: Faculty of Arts and Science
ECON 480 Seminar In Microeconomics I Units: 3.00
Series of seminar courses on microeconomic topics.
Evaluation based on presentations, formal/informal participation and written papers. Offerings vary from year to year with staff availability. Topics announced in advance of course selection and available on the Undergraduate webpage.
NOTE Fourth year ECON Medial students with fewer than 30.0 ECON units and fourth year APEC students without ECON 320 should contact the department before May 1 to obtain permission to register in this course.
LEARNING HOURS 120 (18S;18G;12I;72P).
Requirements: Prerequisite Level 4 or above and a (cumulative GPA of 1.90 or higher) and a (minimum GPA of 2.60 in 30.0 units of ECON) and (ECON 310; ECON 320; ECON 351). Exclusion ECON 480-499.
Offering Faculty: Faculty of Arts and Science

ECON 481 Seminar In Microeconomics II Units: 3.00
Series of seminar courses on microeconomic topics.
Evaluation based on presentations, formal/informal participation and written papers. Offerings vary from year to year with staff availability. Topics announced in advance of course selection and available on the Undergraduate webpage.
NOTE Fourth year ECON Medial students with fewer than 30.0 ECON units and fourth year APEC students without ECON 320 should contact the department before May 1 to obtain permission to register in this course.
LEARNING HOURS 120 (18S;18G;12I;72P).
Requirements: Prerequisite Level 4 or above and a (cumulative GPA of 1.90 or higher) and a (minimum GPA of 2.60 in 30.0 units of ECON) and (ECON 310; ECON 320; ECON 351). Exclusion ECON 480-499.
Offering Faculty: Faculty of Arts and Science

ECON 482 Seminar In Microeconomics III Units: 3.00
Series of seminar courses on microeconomic topics.
Evaluation based on presentations, formal/informal participation and written papers. Offerings vary from year to year with staff availability. Topics announced in advance of course selection and available on the Undergraduate webpage.
NOTE Fourth year ECON Medial students with fewer than 30.0 ECON units and fourth year APEC students without ECON 320 should contact the department before May 1 to obtain permission to register in this course.
LEARNING HOURS 120 (18S;18G;12I;72P).
Requirements: Prerequisite Level 4 or above and a (cumulative GPA of 1.90 or higher) and a (minimum GPA of 2.60 in 30.0 units of ECON) and (ECON 310; ECON 320; ECON 351). Exclusion ECON 480-499.
Offering Faculty: Faculty of Arts and Science

ECON 483 Seminar In Microeconomics IV Units: 3.00
Series of seminar courses on microeconomic topics.
Evaluation based on presentations, formal/informal participation and written papers. Offerings vary from year to year with staff availability. Topics announced in advance of course selection and available on the Undergraduate webpage.
NOTE Fourth year ECON Medial students with fewer than 30.0 ECON units and fourth year APEC students without ECON 320 should contact the department before May 1 to obtain permission to register in this course.
LEARNING HOURS 120 (18S;18G;12I;72P).
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Offering Faculty: Faculty of Arts and Science

ECON 484 Seminar In Microeconomics V Units: 3.00
Series of seminar courses on microeconomic topics.
Evaluation based on presentations, formal/informal participation and written papers. Offerings vary from year to year with staff availability. Topics announced in advance of course selection and available on the Undergraduate webpage.
NOTE Fourth year ECON Medial students with fewer than 30.0 ECON units and fourth year APEC students without ECON 320 should contact the department before May 1 to obtain permission to register in this course.
LEARNING HOURS 120 (18S;18G;12I;72P).
Requirements: Prerequisite Level 4 or above and a (cumulative GPA of 1.90 or higher) and a (minimum GPA of 2.60 in 30.0 units of ECON) and (ECON 310; ECON 320; ECON 351). Exclusion ECON 480-499.
Offering Faculty: Faculty of Arts and Science

ECON 485 Seminar In Microeconomics VI Units: 3.00
Series of seminar courses on microeconomic topics.
Evaluation based on presentations, formal/informal participation and written papers. Offerings vary from year to year with staff availability. Topics announced in advance of course selection and available on the Undergraduate webpage.
NOTE Fourth year ECON Medial students with fewer than 30.0 ECON units and fourth year APEC students without ECON 320 should contact the department before May 1 to obtain permission to register in this course.
LEARNING HOURS 120 (18S;18G;12I;72P).
Requirements: Prerequisite Level 4 or above and a (cumulative GPA of 1.90 or higher) and a (minimum GPA of 2.60 in 30.0 units of ECON) and (ECON 310; ECON 320; ECON 351). Exclusion ECON 480-499.
Offering Faculty: Faculty of Arts and Science

Economics 9
ECON 486 Seminar In Microeconomics VII Units: 3.00
Series of seminar courses on microeconomic topics.
Evaluation based on presentations, formal/informal participation and written papers. Offerings vary from year to year with staff availability. Topics announced in advance of course selection and available on the Undergraduate webpage.
NOTE Fourth year ECON Medial students with fewer than 30.0 ECON units and fourth year APEC students without ECON 320 should contact the department before May 1 to obtain permission to register in this course.
LEARNING HOURS 120 (18S;18G;12I;72P).
Requirements: Prerequisite Level 4 or above and a (cumulative GPA of 1.90 or higher) and a (minimum GPA of 2.60 in 30.0 units of ECON) and (ECON 310; ECON 320; ECON 351). Exclusion ECON 480-499.
Offering Faculty: Faculty of Arts and Science

ECON 487 Seminar In Microeconomics VIII Units: 3.00
Series of seminar courses on microeconomic topics.
Evaluation based on presentations, formal/informal participation and written papers. Offerings vary from year to year with staff availability. Topics announced in advance of course selection and available on the Undergraduate webpage.
NOTE Fourth year ECON Medial students with fewer than 30.0 ECON units and fourth year APEC students without ECON 320 should contact the department before May 1 to obtain permission to register in this course.
LEARNING HOURS 120 (18S;18G;12I;72P).
Requirements: Prerequisite Level 4 or above and a (cumulative GPA of 1.90 or higher) and a (minimum GPA of 2.60 in 30.0 units of ECON) and (ECON 310; ECON 320; ECON 351). Exclusion ECON 480-499.
Offering Faculty: Faculty of Arts and Science

ECON 488 Seminar In Microeconomics IX Units: 3.00
Series of seminar courses on microeconomic topics.
Evaluation based on presentations, formal/informal participation and written papers. Offerings vary from year to year with staff availability. Topics announced in advance of course selection and available on the Undergraduate webpage.
NOTE Fourth year ECON Medial students with fewer than 30.0 ECON units and fourth year APEC students without ECON 320 should contact the department before May 1 to obtain permission to register in this course.
LEARNING HOURS 120 (18S;18G;12I;72P).
Requirements: Prerequisite Level 4 or above and a (cumulative GPA of 1.90 or higher) and a (minimum GPA of 2.60 in 30.0 units of ECON) and (ECON 310; ECON 320; ECON 351). Exclusion ECON 480-499.
Offering Faculty: Faculty of Arts and Science

ECON 489 Seminar In Microeconomics X Units: 3.00
Series of seminar courses on microeconomic topics.
Evaluation based on presentations, formal/informal participation and written papers. Offerings vary from year to year with staff availability. Topics announced in advance of course selection and available on the Undergraduate webpage.
NOTE Fourth year ECON Medial students with fewer than 30.0 ECON units and fourth year APEC students without ECON 320 should contact the department before May 1 to obtain permission to register in this course.
LEARNING HOURS 120 (18S;18G;12I;72P).
Requirements: Prerequisite Level 4 or above and a (cumulative GPA of 1.90 or higher) and a (minimum GPA of 2.60 in 30.0 units of ECON) and (ECON 310; ECON 320; ECON 351). Exclusion ECON 480-499.
Offering Faculty: Faculty of Arts and Science
**ECON 492 Seminar In Macroeconomics III** Units: 3.00
Series of seminar courses on macroeconomic topics. Evaluation based on presentations, formal/informal participation and written papers. Offerings vary from year to year with staff availability. Topics announced in advance of course selection and available on the Undergraduate webpage.

NOTE Fourth year ECON Medial students with fewer than 30.0 ECON units and fourth year APEC students without ECON 320 should contact the department before May 1 to obtain permission to register in this course.

**Requirements:** Prerequisite Level 4 or above and a (cumulative GPA of 1.90 or higher) and a (minimum GPA of 2.60 in 30.0 units of ECON) and (ECON 310; ECON 320; ECON 351). Exclusion ECON 480-499.

**Offering Faculty:** Faculty of Arts and Science

**ECON 493 Seminar In Macroeconomics IV** Units: 3.00
Series of seminar courses on macroeconomic topics. Evaluation based on presentations, formal/informal participation and written papers. Offerings vary from year to year with staff availability. Topics announced in advance of course selection and available on the Undergraduate webpage.

NOTE Fourth year ECON Medial students with fewer than 30.0 ECON units and fourth year APEC students without ECON 320 should contact the department before May 1 to obtain permission to register in this course.

**Requirements:** Prerequisite Level 4 or above and a (cumulative GPA of 1.90 or higher) and a (minimum GPA of 2.60 in 30.0 units of ECON) and (ECON 310; ECON 320; ECON 351). Exclusion ECON 480-499.

**Offering Faculty:** Faculty of Arts and Science

**ECON 494 Seminar In Macroeconomics V** Units: 3.00
Series of seminar courses on macroeconomic topics. Evaluation based on presentations, formal/informal participation and written papers. Offerings vary from year to year with staff availability. Topics announced in advance of course selection and available on the Undergraduate webpage.

NOTE Fourth year ECON Medial students with fewer than 30.0 ECON units and fourth year APEC students without ECON 320 should contact the department before May 1 to obtain permission to register in this course.

**Requirements:**Prerequisite Level 4 or above and a (cumulative GPA of 1.90 or higher) and a (minimum GPA of 2.60 in 30.0 units of ECON) and (ECON 310; ECON 320; ECON 351). Exclusion ECON 480-499.

**Offering Faculty:** Faculty of Arts and Science

**ECON 499 Independent Study** Units: 3.00
Optional for those in the B.A.(Honours) program with a major concentration in Economics or Applied Economics. The thesis is a major research paper to be undertaken with supervision of a faculty adviser. The thesis proposal should be presented to the Department by 31 October in the graduating year and a completed thesis must be submitted to the Department by the end of the Winter Session in the graduating year.

**Learning Hours:** 240 (48I;192P).

**Requirements:** Prerequisite Level 4 or above and registration in an (ECON or APEC Plan) and permission of the Department. Note Enrollment is limited.

**Offering Faculty:** Faculty of Arts and Science

**ECON 590 Economics Thesis** Units: 6.00
Optional for those in the B.A.(Honours) program with a major concentration in Economics or Applied Economics. The thesis is a major research paper to be undertaken with supervision of a faculty adviser. The thesis proposal should be presented to the Department by 31 October in the graduating year and a completed thesis must be submitted to the Department by the end of the Winter Session in the graduating year.

**Learning Hours:** 240 (48I;192P).

**Requirements:** Prerequisite Level 4 or above and registration in an (ECON or APEC Plan) and permission of the Department. Note Enrollment is limited.

**Offering Faculty:** Faculty of Arts and Science

**ECON 594 Independent Study** Units: 3.00
Offering Faculty: Faculty of Arts and Science

**ECON 595 Independent Study** Units: 6.00
Offering Faculty: Faculty of Arts and Science

**ECON 596 Independent Study** Units: 12.00
Offering Faculty: Faculty of Arts and Science

**ECON 597 Independent Study** Units: 18.00
Offering Faculty: Faculty of Arts and Science

**ECON 810 Microeconomic Theory** Units: 3.00
This course provides an in depth review of theories of demand, production, general equilibrium, market failures and welfare economics. In addition, selected topics in decision theory and game theory will be covered.

**Offering Faculty:** Faculty of Arts and Science

**ECON 811 Adv. Microeconomic Theory I** Units: 3.00
This course provides a brief review of demand and production, general equilibrium and welfare economics. Topics such as core equivalence and efficient provision of public goods may be considered in depth. In addition, the course provides a substantial introduction to cooperative and non-cooperative game theory and its applications. Intended for Ph.D. students.

**Offering Faculty:** Faculty of Arts and Science

**ECON 812 History Of Economic Thought** Units: 3.00
Offering Faculty: Faculty of Arts and Science

**ECON 813 Adv. Microeconomic Theory II** Units: 3.00
This course provides in depth coverage of current topics in microeconomic theory. Topics will be drawn from: general equilibrium with and without uncertainty; non-cooperative games; equilibrium concepts and refinements; applications of game theory to principal agent models and models of screening and signaling; correlated equilibrium; repeated games; cooperative games, bargaining, auctions, common knowledge, implementation, evolutionary games and theories of learning. Intended for Ph.D. students.

**Offering Faculty:** Faculty of Arts and Science
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Description</th>
<th>Offering Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 815</td>
<td>Macroeconomic Theory</td>
<td>3.00</td>
<td>The first half of this course discusses the computation of aggregate variables and introduces students to dynamic models of long-run growth: the Solow model, the neoclassical growth model, overlapping generations models, and endogenous growth models. These are used to study long-run policy issues and the determinants of cross-country differences in per capita income and growth. The second half of the course introduces the student to real business cycle models and to the micro-foundations of models of nominal rigidities and non-market clearing. These are used to study the nature of short-run fluctuations and to evaluate macroeconomic policies related to stabilization, inflation, unemployment and the public debt.</td>
<td>Faculty of Arts and Science</td>
</tr>
<tr>
<td>ECON 816</td>
<td>Adv. Macroeconomic Theory I</td>
<td>3.00</td>
<td>This course will focus on fundamental tools of modern macroeconomic analysis. Specifically, recursive methods and their uses in stochastic applied general equilibrium theory. These uses include applications of both life-cycle and infinite horizon frameworks to savings and consumption, economic growth, fluctuations, and financial markets. Intended for Ph.D. students.</td>
<td>Faculty of Arts and Science</td>
</tr>
<tr>
<td>ECON 817</td>
<td>Adv. Macroeconomic Theory II</td>
<td>3.00</td>
<td>This course will apply the tools learned in ECON-816* to further topics. Some emphasis will be placed on numerical methods and computation. The topics considered will normally include search and matching, monetary economics, income and wealth inequality, and fiscal policy. Other topics may also be considered. Intended for Ph.D. students.</td>
<td>Faculty of Arts and Science</td>
</tr>
<tr>
<td>ECON 820</td>
<td>Money In The Macroeconomy</td>
<td>3.00</td>
<td>A course which uses elementary stochastic processes in the study of asset pricing under rational expectations (interest rates and inflation, volatility, bubbles, risk premiums, term structures), the demand for money, evidence on money in business cycles, the optimal quantity of money, and monetary policy (targeting, rules, credibility) in theory and practice.</td>
<td>Faculty of Arts and Science</td>
</tr>
<tr>
<td>ECON 821</td>
<td>Money And Financial Markets</td>
<td>3.00</td>
<td>This course examines topics in the microeconomic foundations of money, financial markets and financial intermediation.</td>
<td>Faculty of Arts and Science</td>
</tr>
<tr>
<td>ECON 825</td>
<td>International Trade</td>
<td>3.00</td>
<td>A course in the pure theory of trade and the theory of commercial policy and their applications. Both positive and normative aspects are considered.</td>
<td>Faculty of Arts and Science</td>
</tr>
<tr>
<td>ECON 826</td>
<td>International Finance</td>
<td>3.00</td>
<td>Macroeconomic and monetary theory in an open economy including topics such as: capital flows and models of the current account; international risk-sharing; sovereign debt; real and nominal exchange rates; currency crises; and the choice of exchange-rate regime.</td>
<td>Faculty of Arts and Science</td>
</tr>
<tr>
<td>ECON 830</td>
<td>Econ Devel In Canada &amp; Usa</td>
<td>3.00</td>
<td>Focuses on long-term aspects of economic development in Canada and the United States placed within the context of the international economy. The course centres on trends in population, income, and their distribution, and examines the processes which brought them about. Included in this analysis is an examination of Rostow’s take-off thesis, the staples theory, and the growth accounting approach. Also included are such prominent issues as the roles of transportation, government intervention, migration and land settlement.</td>
<td>Faculty of Arts and Science</td>
</tr>
<tr>
<td>ECON 831</td>
<td>Issues in North American Economic History</td>
<td>3.00</td>
<td>A selection of issues is analyzed from the perspective of the new economic history as applied to Canada and the United States. Typically these would include the application of counterfactual conditional propositions, general equilibrium models, and economic theory to the study of institutional change. Offered jointly with ECON-430.</td>
<td>Faculty of Arts and Science</td>
</tr>
<tr>
<td>ECON 835</td>
<td>Development Economics</td>
<td>3.00</td>
<td>The first half of the course will focus mainly on microeconomic issues related to land and labor markets in the agricultural sector, credit markets and insurance, and duality. In particular, it will consider alternative views of the role and endogenous evolution of non-market institutions in the development process. The second half of the course will deal with several macroeconomic issues including rural-urban migration, the interactions between inequality and economic development, the interactions between population growth and technical change, and the contribution of internal factor accumulation versus TFP growth. The course will conclude with a conference in which students are expected to present and discuss recent papers in development economics. Offered jointly with ECON-435.</td>
<td>Faculty of Arts and Science</td>
</tr>
</tbody>
</table>
ECON 837  Cost-Benefit Analysis  Units: 3.00
A course covering the techniques and applications of cost-benefit analysis including project evaluation in the context of both developed and less-developed economies. Topics include: the welfare-economic foundations of cost-benefit analysis; investment decision rules; the choice of a social discount rate; risk and uncertainty; shadow pricing of inputs with and without distortions; and special problems of project evaluation. Other objectives such as income distribution and macro-economic goals are also considered. Offered jointly with ECON-437.
Offering Faculty: Faculty of Arts and Science

ECON 840  Public Economics I  Units: 3.00
Introduction to public economics with emphasis on public expenditure. The role of the public sector in the provision or regulation of private goods, public goods, shared goods, externalities and the redistribution of income. Deadweight loss and the marginal cost of public funds. Fiscal federalism.
Offering Faculty: Faculty of Arts and Science

ECON 841  Public Economics II  Units: 3.00
Normative and positive aspects of tax theory: optimal taxation and redistribution, more on the marginal cost of public funds, the theory of tax reform, the effects of taxation on markets for goods, labour and capital, tax incidence, intergenerational transfers.
Offering Faculty: Faculty of Arts and Science

ECON 845  Industrial Organization I  Units: 3.00
A discussion of the elements of market structure, market conduct, and market performance. Topics include: alternative theories of firm behaviour including sales revenue and growth maximization, concentration of industry, economies of scale, barriers to entry, advertising, mergers, research and innovation, and generally monopoly power and economic performance.
Offering Faculty: Faculty of Arts and Science

ECON 846  Industrial Organization II  Units: 3.00
Topics include: i) regulation: the theory of the firm, pricing policy, distortions, political economy; ii) competition policy: analysis of policy in light of behavioural models of specific practices; and iii) quantitative studies: emphasis on integration of analytic framework and empirical investigation.
Offering Faculty: Faculty of Arts and Science

ECON 848  Economic Analysis Of The Law  Units: 3.00
This course introduces students to the central tools and concepts of law and economics. It focuses on the application of law and economics analysis across a number of substantive legal domains, that may include property rights, contract law, tort law, crime, corporate law, competition law, litigation and discrimination law. The course incorporates theoretical, empirical and behavioural approaches to the economic analysis of law.
Offering Faculty: Faculty of Arts and Science

ECON 850  Econometrics I  Units: 3.00
This course deals with the foundations of econometrics. Topics include the method of moments, the geometry of ordinary least squares, hypothesis testing and confidence intervals, nonlinear least squares, instrumental variables, generalized least squares, the generalized method of moments, and maximum likelihood. Intended for Ph.D. students.
Offering Faculty: Faculty of Arts and Science

ECON 851  Econometrics II  Units: 3.00
This is a course intended for specialists in econometrics. It deals primarily with the asymptotic distribution theory of nonlinear least squares, generalized least squares, the generalized method of moments, and maximum likelihood. Other topics include specification testing, binary response models, and simultaneous equations estimators. Intended for Ph.D. students.
Offering Faculty: Faculty of Arts and Science

ECON 852  Quantitative Methods  Units: 3.00
A first course in econometrics at the graduate level. Students are expected to have had at least one econometrics course at the undergraduate level, and to be familiar with matrix algebra and elementary statistics. A broad range of econometric models will be covered. (Offered jointly with ECON-450.)
Offering Faculty: Faculty of Arts and Science
ECON 853 Applied Econometrics Units: 3.00
This course is an introduction to graduate level time series econometrics. The goal of the course is to provide a foundation in core time series methods that will permit students to undertake serious empirical work or pursue more advanced theoretical modeling. The topics include, but are not limited to, time series regressions, univariate and multivariate stationary time series models (ARMA and VAR models), forecasting, univariate and multivariate non-stationary time series models (trending data, unit roots, cointegration), and possibly some spectral analysis and generalized method of moments (GMM). The course focuses on time series methods that have become popular and widely used in economics, and economic examples will often be used as motivation.
Offering Faculty: Faculty of Arts and Science

ECON 855 Mathematical Economics Units: 3.00
Applications of mathematics to economic analysis. Topics covered will generally include a review of optimization techniques, including nonlinear and dynamic programming, applied to consumer and producer theory; comparative statics; the envelope theorem; duality theory; welfare economics; and general equilibrium theory. (Offered jointly with ECON-455.)
Offering Faculty: Faculty of Arts and Science

ECON 856 Static Optimization Units: 3.00
The first part of the course covers the basic optimization techniques used in static economic analysis and their application to a number of problems in economic theory. The second part of the course is devoted to static general equilibrium theory. The major emphasis is placed on the proof of the existence of a competitive equilibrium and the proof of the classical optimality properties of competitive equilibrium. Other topics which may be covered include the computation of equilibrium, non-Walrasian equilibrium theory, n-person game theory and its applications to economic models, monopolistic competition, the Leontief economy, the two-sector general equilibrium model, duality theory, index numbers and aggregation.
Offering Faculty: Faculty of Arts and Science

ECON 857 Dynamic Economic Theory Units: 3.00
Covers the mathematics used in dynamic economic theory and its application to a number of topics. These may include the stability of Walrasian and non-Walrasian economies, capital and growth theory, planning in developed and underdeveloped economies comparative dynamics, regulation and decentralization in mixed economies, the harvesting and extraction of reproducible and non-reproducible resources.
Offering Faculty: Faculty of Arts and Science

ECON 858 Experiments And Game Theory Units: 3.00
The course will focus on the intersection of research in experimental economics and game theory. The dialogue between these fields has had an important influence on research topics for game theorists and on topics and methodology for experimentalists. There will be approximately equal weight on game theory and experimental methods and evidence. Game theory topics include evolutionary game theory, learning models, and the logic based models of knowledge and belief revision. The experimental topics will include design considerations and data analysis in the context of providing feedback for the development of the theory.
Offering Faculty: Faculty of Arts and Science

ECON 860 Empirical Micro-Economics I Units: 3.00
The principal purpose of the course is to introduce students to contemporary empirical research in micro-economics. The course focuses primarily on the economics of household behavior, including labour supply, intra-household decision-making, marriage, fertility and search and matching models of labour and marriage markets. Equal attention is focused on the theoretical underpinnings of each subject, the empirical methods for testing the implications of micro-economic models and assessing the evidence that the application of these methods has produced.
Offering Faculty: Faculty of Arts and Science

ECON 861 Empirical Micro-Economics II Units: 3.00
The principal purpose of the course is to introduce students to contemporary empirical research in micro-economics. The course focuses primarily on micro-economic models of human capital accumulation, duration analysis, signaling and agency problems. Equal attention is focused on the theoretical underpinnings of each subject, the empirical methods for testing the implications of micro-economic models and assessing the evidence that the application of these methods has produced.
Offering Faculty: Faculty of Arts and Science

ECON 865 Income Distribution Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 870 Finance Theory Units: 3.00
The course provides a detailed discussion of portfolio choice and asset pricing theory under symmetric information. In addition there will be a brief discussion of financial innovation and market frictions; connections with macroeconomic and international finance models; and some basic issues in corporate finance. NOTE: This course is cross-referenced with MGMT-820*.
Offering Faculty: Faculty of Arts and Science
ECON 871  Financial Systems: Th. & Appl.  Units: 3.00  
This course discusses the economic role of various types of financial intermediaries and financial markets. Topics include: the role of banks in facilitating financing flows between savers and borrowers; the role of payment systems, their problems and the evolution of electronic clearing systems; the evolution of the financial system and the changing role of institutions in accommodating new functions; financial regulation and deregulation. Examples will be drawn largely from Canada and the U.S.  
Offering Faculty: Faculty of Arts and Science  

economics to the other social sciences and to philosophy. 

ECON 872  Topics In Quantitative Finance  Units: 3.00  
This course will cover a number of topics in financial econometrics. These will probably include testing the random walk hypothesis, autoregressive conditional heteroskedasticity, econometric methods for transactions data, event studies, testing the CAPM, and value at risk. Other topics that may be covered include models of the term structure, derivative pricing, and the econometrics of foreign exchange rates.  
Offering Faculty: Faculty of Arts and Science  

ECON 873  Financial Derivatives  Units: 3.00  
This course covers forward, futures, swap, and option contracts. It deals with how the contracts work, how they are used, how they are valued, and how financial institutions hedge their positions in the contracts. The topics covered include Black-Scholes pricing, the use of binomial trees, and delta-gamma-vega hedging, the mathematics underlying the pricing of derivatives and the numerical procedures that are used to implement derivatives pricing models. It includes in-depth material on exotic options, interest rate derivatives, and credit derivatives. Other topics on risk management will be briefly discussed. NOTE: This course is cross-referenced with MGMT-821*.  
Offering Faculty: Faculty of Arts and Science  

ECON 880  History Of Economic Thought  Units: 3.00  
Most frequently the content of this course focuses upon the analytical structure of the main theoretical models that have been developed since Adam Smith; occasionally the lectures and readings cover broader topics such as the relation of economics to the other social sciences and to philosophy.  
Offering Faculty: Faculty of Arts and Science  

ECON 881  Economic Policy Formation  Units: 3.00  
An examination of the economic aspects of recent policy formation in Canada: selected problems and issues. NOTE: This course is cross-referenced with SPS-844*.  
Offering Faculty: Faculty of Arts and Science  

ECON 882  Research Problem & Methodology  Units: 3.00  
A general course in research methodology. Please refer to Departmental Handbook - QEDetails.  
Offering Faculty: Faculty of Arts and Science  

ECON 890  Natural Resource Economics  Units: 3.00  
The objective of this course will be to examine the exploitation and conservation of natural resources and the implications of resource use for public policy, using the tools of economic analysis. The problems and issues that are specific to particular natural resources will be identified. Economic theory and quantitative methods will then be applied to an analysis of these problems, with special attention paid to policy implications generally and those of Canada in particular.  
Offering Faculty: Faculty of Arts and Science  

ECON 891  Environmental Economics  Units: 3.00  
The course provides a rigorous theoretical treatment of environmental policy design. Although the emphasis will be on microeconomic modeling approaches, the course will also draw upon case studies of environmental policies. Topics covered include: the theory of externalities, Pigouvian taxes, performance and design standards, marketable permit systems, hybrid systems, policy instrument choice under uncertainty, design of regulatory mechanisms under asymmetric information, political economy of environmental regulation, monitoring and incomplete enforcement, and environmental negotiation.  
Offering Faculty: Faculty of Arts and Science  

ECON 896  Non-Research Master's Oral  Units: 6.00  
Offering Faculty: Faculty of Arts and Science  

ECON 898  Master's Essay  Units: 6.00  
Offering Faculty: Faculty of Arts and Science  

ECON 899  Master's Thesis  Units: 6.00  
Offering Faculty: Faculty of Arts and Science  

ECON 910  Advanced Topics In Microecon A  Units: 3.00  
Advanced courses in applied microeconomics. Topics will be drawn from different fields but will be organized around applications of microeconomic theory. For example, similar applications of general equilibrium, game theory, contracts, asymmetric information, and incentive theory may be used to explore issues drawn from the range of applied micro fields. No more than two of these courses will be offered in any given academic year.  
Offering Faculty: Faculty of Arts and Science  

ECON 911  Advanced Topics In Microecon B  Units: 3.00  
Offering Faculty: Faculty of Arts and Science  

ECON 912  Advanced Topics In Microecon C  Units: 3.00  
Offering Faculty: Faculty of Arts and Science  

ECON 913  Advanced Topics In Microecon D  Units: 3.00  
Offering Faculty: Faculty of Arts and Science
ECON 915  Advanced Topics In Macroecon A  Units: 3.00
An advanced course in macroeconomic theory. Topics may include growth theory, search, heterogeneous agents, optimal macroeconomic policy, credibility and dynamic contracting.
Offering Faculty: Faculty of Arts and Science

ECON 916  Advanced Topics In Macroecon B  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 917  Advanced Topics In Macroecon C  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 918  Advanced Topics In Macroecon D  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 920  Adv. Topics-Money & Macroecon.  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 925  Adv. Topics-Internat. Trade  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 930  Adv. Topics-Economic History  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 940  Adv. Top. In Public Economics  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 945  Adv. Topics-Industrial Org  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 950  Adv Top Empirical Methods A  Units: 3.00
The contents of this course will vary from year to year. In recent years, it has often dealt with simulation-based estimation, indirect inference, and bootstrap methods.
Offering Faculty: Faculty of Arts and Science

ECON 951  Adv Topics Empirical Methods  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 953  Applied Econometrics  Units: 3.00
This course is an introduction to graduate level time series econometrics. The goal of the course is to provide a foundation in core time series methods that will permit students to undertake serious empirical work or pursue more advanced theoretical modeling. The topics include, but are not limited to, time series regressions, univariate and multivariate stationary time series models (ARMA and VAR models), forecasting, univariate and multivariate non-stationary time series models (trending data, unit roots, cointegration), and possibly some spectral analysis and generalized method of moments (GMM). The course focuses on time series methods that have become popular and widely used in economics, and economic examples will often be used as motivation.
Offering Faculty: Faculty of Arts and Science

ECON 954  Adv Topics Empirical Methods C  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 955  Adv Topics Empirical Methods D  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 956  Adv Top In Mathematical Econ  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 960  Adv. Topics-Labour Economics  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 970  Adv. Top. In Natural Resources  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 990  Nat. Resources Or Envir. Econ.  Units: 3.00
Offering Faculty: Faculty of Arts and Science

ECON 999  Phd. Thesis  Units: 6.00
Offering Faculty: Faculty of Arts and Science

PPEC 200  Introduction to the Study of Politics, Philosophy and Economics  Units: 3.00
This course will emphasize the analysis of conceptual complementarities, the assessment of arguments, and the application of principles in factual contexts that are the focus of study within the disciplines of Politics, Philosophy and Economics.
LEARNING HOURS 120 (24L;12G;84P).
Requirements: Prerequisite 12.0 units from (ECON 110; [ECON111 and ECON 112]; POLS 110; PHIL at the 100-level).
Offering Faculty: Faculty of Arts and Science

PPEC 400  Research Seminar in Politics, Philosophy and Economics  Units: 3.00
Politics, Philosophy and Economics approach problems from discipline specific perspectives, but the questions asked have fundamental similarities. In this course students will be exposed to research methods from all three different disciplines, while completing a research intensive project. Peer review and presentation skills will be emphasized.
LEARNING HOURS 120 (12L;12S;12G;84P).
Requirements: Prerequisite Level 4 or above and registration in the PPEC Specialization Plan and a minimum Plan GPA of 2.60 and permission of the Department.
Offering Faculty: Faculty of Arts and Science