ECONOMICS

CURRICULUM

Master of Arts – International Economics and Finance

DEGREE REQUIREMENTS		**Credits**
Master's Research Paper		(Milestone)
EF8100	Mathematics and Statistics Review	(Non-credit)
EF8901	Microeconomics I	1
EF8902	Macroeconomics I	1
EF8903	Econometrics I	1
EF8904	Financial Theory	1
Three elective courses		3
One of the following Fields:		
Field I - International Finance		
EF8911	Internat Monetary Economics	1
Field II - International Trade & Policy		
EF8931	Internat Trade Theory, Policy	1

ELECTIVES

EF8912	Country Risk Analysis	1
EF8913	Internat Financial Markets	1
EF8914	Financial Econometrics	1
EF8915	Internat Corporate Finance	1
EF8932	Intnl Trade-Imperfect Comp	1
EF8933	Empirical Topics: Intnl Trade	1
EF8934	Global Inst and Internat Econ	1
EF8935	Law/Reg-Intnl Trade and Invest	1
EF8936	International Public Economics	1
EF8937	Labour Economics	1
EF8938	Development Microeconomics	1
EF8939	Topics in Econometrics	1
EF8940	Environment and Econom Growth	1
EF8941	Topics: Internat Econom Devel	1
EF8942	Industrial Organization	1

Doctor of Philosophy - Economics

First Offered fall 2010

DEGREE REQUIREMENTS		**Credits**
PhD Comprehensive Examination		(Milestone)
PhD Dissertation		(Milestone)
PhD Seminar		(Milestone)
EF8100	Mathematics and Statistics Review	(Non-credit)
EF8901*	Microeconomics I	1
EF9901	Microeconomics II	1
EF8902*	Macroeconomics I	1
EF9902	Macroeconomics II	1
EF8903*	Econometrics I	1
EF9903	Econometrics II	1

EF9904	Mathematical Economics	1
EF9905	Adv Topics: Internat'l Trade	1
EF9906	International Finance	1
One* credit from Field Electives		1
Four* credits from General Electives or remaining Field Electives		4

*Note that up to 7 credits may be given for previous work at the Master's level.

FIELD ELECTIVES		**Credits**
EF9907	Game Theory, Industry, Trade	1
EF9908	Asset Pricing and Finance	1
EF8914	Financial Econometrics	1
EF8933	Empirical Topics: Intnl Trade	1

GENERAL ELECTIVES		**Credits**
EF8913	Internat Financial Markets	1
EF8932	Intnl Trade-Imperfect Comp	1
EF8936	International Public Economics	1
EF8937	Labour Economics	1
EF8938	Development Microeconomics	1
EF8939	Topics in Econometrics	1
EF8940	Environment and Econom Growth	1
EF8941	Topics: Internat Econom Devel	1
EF9909	Numerical Methods in Economics	1
EF9910	Trade and the Environment	1
EF9911	Topics in Labour Economics	1
AM8001	Analysis and Probability	1
AM8201	Financial Mathematics	1

COURSE LISTING

Master's Research Paper
The student is required to complete a research paper on a topic related to his/her field of specialization (international trade or international finance). The research topic is selected in consultation with the student's supervisor, where the student presents an outline of the research plan in writing, and the research is carried out under the direction of a faculty supervisor and monitored by a supervisory committee. On completion, the research results are submitted in research paper format to the supervisor and a second reader, who assess and grade the research paper. Through the research paper, the student is expected to provide evidence of competence in carrying out research and a sound understanding of the material associated with the research. This is a "Milestone." Pass/Fail

PhD Comprehensive Examination
The Comprehensive examinations will consist of two examinations in microeconomic theory and macroeconomic theory, and one field examination. Normally, they should be completed successfully within two years, and no later than three years, from the date of registration into the PhD program. This is a "Milestone." Pass/Fail

PhD Dissertation
To complete the PhD degree, a student's dissertation that contains original and significant research must be approved. This involves two formal steps. First, a dissertation proposal must receive the approval of the Faculty Advisor and members of the Dissertation Supervisory Committee as a result of the student's public defence of the proposal in the third year of study. Second, final approval of the dissertation will be made by a Dissertation Examining Committee, as described by the official policies of the SGS. The dissertation must be presented and defended at a public colloquium convened by the dissertation Supervisor for that purpose. This defence must be announced at least three weeks in advance with copies of the dissertation available for faculty and graduate students at least one week before the defence. Preliminary research to develop a dissertation topic normally begins in the second year of study and the third and fourth years are devoted to developing and refining this research. Throughout this phase students must interact closely with their Faculty Supervisors and Dissertation Committees. The Seminar Course will provide an opportunity for PhD candidates to present their dissertation research to other students and faculty. This is a milestone. Pass/Fail

PhD Seminar

The objective of this course is to prepare students for writing their PhD dissertations. The course will consist of a series of seminar presentations by faculty and PhD candidates. Faculty will present their latest research work and discuss their experience in conducting scholarly research. Third year candidates will present their research paper that have already started working on in their second year of study. Second year candidates will be required to present a concrete proposal with bibliography, approved by a supervisor, on a topic that they wish to write their research paper on, and present it in their third year of study. Writing a research paper is an important undertaking by PhD candidates as in most cases it is expected to form the foundation for their PhD dissertation in consultation with faculty experts in specific areas of study. Attendance for this course is mandatory. It is also expected that PhD candidates attend the regular departmental seminar series. A Pass/Fail grade, based on the completed research paper, will be assigned to this course from the candidate's Supervisor and two members of the Supervisory Committee. This is a Milestone. Pass/Fail

EF8100 Mathematics and Statistics Review
All students who have been admitted to the International Economics and Finance program must demonstrate competence in quantitative methods by passing a preliminary course in mathematical economics. The course will review some of the mathematics and statistics used in graduate economics courses. Course material will be provided both in class and on the web during the last two weeks of August and the first week of September. Attendance is highly recommended but not compulsory. This is a pass/fail, non-credit course for which there will be an exam during the first month of studies in the program. Students who fail the course can rewrite the exam before the end of the first term. Students who fail on their second attempt will be asked to withdraw from the program. Non-credit. Pass/Fail

EF8901 Micro Economics I
This course provides in depth coverage of the foundations of microeconomic theory required for effective analysis of international economic issues. Fundamentals such as static and dynamic optimization, consumer choice (deterministic and under uncertainty), and producer theory (profit maximization, costs, and duality) will be supplemented with applications to market structure, game theory in trade and policy, the economics of information, and general equilibrium. Examples and illustrations will be drawn from an international context throughout the course. 1 Credit

EF8902 Macro Economics I
This course is an introduction to graduate macro economics and the techniques associated with analyzing macroeconomic models. Topics include theories of aggregate supply, rational expectations, inflation and monetary policy, growth theories, consumption and savings, open economy macro economics and empirical methods suitable for studying international linkages of exchange rates, interest rates and prices. The technical tools include standard calculus, linear algebra, optimization in continuous time using the Hamiltonian, optimization in discrete time using dynamic programming, and methods in time series analysis. 1 Credit

EF8903 Econometrics I
This course is an introduction to the theory and practice of econometric modeling. The theoretical aspects of the course include specification, estimation and inference in the context of the classical linear regression and time series models, and under conditions when the classical assumptions about the error term are violated such as under heteroskedasticity and autocorrelation. The focus of econometric modeling and estimation will be on empirical models for the exchange rate, international interest parity and purchasing power parity, using data sets from the Canadian and the international economy. Students are required to have working knowledge of one or more statistical packages such as EVIEWS, TSP, Stata or SAS. 1 Credit

EF8904 Financial Theory
This course will teach fundamentals of finance in an international framework. After introducing students to foreign exchange markets, we will examine return and risk concepts for internationally diversified portfolios. We will concentrate on shareholder wealth maximization for both domestic and multinational firms. During the course students will learn about financial instrument valuation (stocks, bonds and derivative securities). In the second half of the course capital budgeting, capital structure and dividend policy of domestic firms and multinational firms will be investigated. Antirequisite AM8201. 1 Credit

EF8911 International Monetary Economics
(International Finance Field)
This course examines theoretical and empirical issues regarding international monetary arrangements. Topics include the determinants of the international balance of payments, theories of foreign exchange rate determination, fixed versus flexible exchange rate regimes and the efficacy of monetary and fiscal policies under such regimes. The course also examines the theories of optimum currency areas, dollarization and currency boards. 1 Credit

EF8912 Country Risk Analysis
This course introduces the students to the theory and practice of managing cross-border lending and international investment risk. The course gives a comprehensive coverage of the analysis and reporting of sovereign creditworthiness, political risk, current account analysis, statistical credit-scoring methodologies, loan valuation, portfolio management and regulatory supervision. Several case studies will be used, including the Mexican Peso crisis and the collapse of the markets in South East Asia.
Anti-requisite: ECN 821. 1 Credit

EF8913 International Financial Markets
The objective of this course is to develop a solid understanding of international financial markets and examine managerial decision making in an international setting. International financial markets will be studies in the context of the foreign exchange, offshore, derivative securities, and international asset portfolio markets. Theoretical and empirical aspects of these markets will be analyzed

in detail. Decision making regarding the measurement and management of risk in international markets will be analyzed from the point of view of individuals and firms. Prerequisite EF8903 or equivalent, or instructor permission. 1 Credit

EF8914 Financial Econometrics
The purpose of this course is an introduction to the theory and econometric techniques that are necessary to undertake empirical analysis of financial time series. Topics include univariate linear and nonlinear stochastic models such as ARMA processes, ARIMA processes, ARCH-GARCH processes, martingales and random walks. Multivariate stationary and non-stationary processes will also be examined in the context of Vector Autoregressive (VAR) models and Vector Error Correction Models (VECM) for integrated processes. Empirical application of these techniques will be done using data from the Canadian and/or international financial markets. Students of this course are expected to have a solid background in econometrics and have working knowledge of an econometrics package such as EVIEWS, TSP, Stata or SAS. Prerequisite EF8903 or equivalent, or instructor permission. 1 Credit

EF8915 International Corporate Finance
The purpose of this course is for students to understand the dynamics of international corporate finance by concentrating on the financing and investment policies of multinational corporations. We will examine how to evaluate international projects which require large investments and calculate the cost of capital. We will investigate the costs and benefits of issuing securities on international markets. Other topics include international portfolio diversification, taxation issues and functions of offshore centres. This course offers an in-depth treatment of the Classical, neoclassical, and contemporary theories of international trade. Topics include commercial policy, income distribution, international factor movements, and growth. The course also examines various trade policies and their impact on welfare. 1 Credit

EF8931 International Trade Theory and Policy
(International Trade Field)
This course offers an in-depth treatment of the Classical, neoclassical, and contemporary theories of international trade. Topics include commercial policy, income distribution, international factor movements, and growth. The course also examines various trade policies and their impact on welfare. 1 Credit

EF8932 International Trade under Imperfect Competition
This course will provide students with a firm grasp of theoretical and empirical methods of analyzing international trade outside of the traditional competitive framework, utilizing the tools of New Trade Theory. Topics addressed include multinational corporations, strategic interaction between governments and firms, intra-industry trade, intellectual property rights and the emergence of international technology gaps. 1 Credit

EF8933 Empirical Topics in International Trade
This course examines the pattern of trade and the welfare consequences of various trade policies from an empirical view point and teaches the students how to apply trade analysis in a policy environment. The use of the gravity equation will be examined as well as other methods of analyzing trade flows and impediments to trade such as tariffs and transportation costs. The course will emphasize the difficulties in obtaining data and deciding on the appropriate estimation method. 1 Credit

EF8934 Global Institutions and the International Economy
This course is divided into two parts. The first part investigates various explanations of why institutions exist and examines the challenges of creating international institutions that enforce agreed upon rules governing economic relations among nations. The second part of the course looks at the structure of existing international institutions, such as the IMF, the World Bank and the WTO. Case studies will be presented to analyze the impact of policies of these institutions on the national economies. Instructor permission required. 1 Credit

EF8935 The Law and Regulation of International Trade and Investment
This course introduces the student to the law and regulation of international trade and investment. The course will begin with an introduction and overview of the history and characteristics of the WTO trading system. The similarity and differences to NAFTA will be reviewed. Students will then examine the regulation of trade in goods and services, as well as current international regulatory issues relating to the environment, labour, immigration, culture and ethics. Government procurement and intellectual property rules will be examined. International investment rules and dispute settlement will be studied as well as international competition policy and its relationship to AD and CVD rules. The course will conclude with an examination of the dispute settlement regimes of NAFTA and the WTO. 1 Credit

EF8936 International Public Economics
Globalization and the ongoing integration of world markets have serious implications for the nature and impact of domestic fiscal policies. The design of taxation policies in modern economies requires that policymakers carefully consider the international ramifications of their decisions. This course examines some important issues in international taxation. Topics to be covered include the effects of fiscal policy in an open economy relative to a closed economy, optimal income taxation in an open economy, taxes and portfolio choice, tax harmonization and tax coordination, and the impact of taxation on the activities of multinational corporations. Prerequisites EF8901 or equivalent, EF8902 or equivalent, or instructor permission. 1 Credit

EF8937 Labour Economics
This course examines theoretical and empirical issues regarding international labour economics. While goods and capital markets across countries are integrating rapidly, labour markets are integrating at a much slower pace, especially between developing and developed countries. Nevertheless labour markets are deeply affected by the integration in the other markets. The relationship between labour markets dynamics and the integration in capital and goods markets will be the focus of the course. Topics to be

covered include regional labour market differences, the interaction between international trade, capital flows and labor markets, the importance of human capital formation for development, and international migration. 1 Credit

EF8938 Development Microeconomics
The purpose of this course is to provide a microeconomic analysis to some important issues of the current global economy. The topics we intend to cover are taken from a broad spectrum, ranging from current industry practices (e.g., outsourcing) to institutions in developing countries (e.g., Grameen Bank-a highly successful rural micro-credit program in Bangladesh).1 The approach will be of a theoretical nature, applying tools of general microeconomic theory to some of the major issues of the international economy. Although we shall often provide illustrations using case studies, the emphasis will be on microeconomic analysis rather than descriptive accounts. As the course will discuss the micro-foundations of institutions as well as industry practices that have important trade policy implications, it will complement the existing courses on institutions and trade (e.g., International Trade under Imperfect Competition, Global Institutions and the International Economy). 1 Credit

EF8939 Topics in Econometrics
This course provides an introduction to nonparametric methods used in econometrics. Nonparametric methods are statistical techniques which do not require the researchers to specify a functional form for the function being estimated (e.g. probability density function, regression function, etc). The primary goal of the course is to enable students to intelligently apply these methods in analyzing real-world economic issues. Prerequisite EF8903 or equivalent or instructor permission.1 Credit

EF8940 Environment and Economic Growth
This course will examine environmental issues in the context of economic growth, development, and international trade. Developing countries desire economic growth to increase the standard of living of their citizens. However, economic activity can often lead to environmental degradation, which if unchecked can cause a decline in the quality of life even as material standards of living increase. We will examine the links between the environment and development by analyzing specific environmental and resource issues (e.g., air and water pollution, international trade in pollution, climate change, and use of renewable and non-renewable resources). 1 Credit

EF8941 Topics in International Economic Development
This course investigates the evolution of the international economy from the industrial revolution to the present. The development of international trade and institutions figures prominently in the analysis. Although there is early emphasis on Europe and North America, we also investigate developments in Japan and other currently developing… 1 Credit

EF8942 Industrial Organization
Industrial Organization is the formal study of firm behavior under imperfect competition. The objective of this course is to provide a rigorous understanding of certain core theoretical aspects of the behavior of firms and industries in imperfectly competitive markets. The main emphasis of the course will be upon oligopoly theory. The course will cover issues such as oligopoly pricing, price discrimination, location strategies, product differentiation, structure of firms and mergers, entry deterrence, advertising and the economics of research and development. Prerequisite**:** EF8901 or instructor permission. 1 Credit

EF9901 Microeconomics II
This is the second course of the two-course microeconomics sequence. The purpose of this course is to build on the foundation provided by the first microeconomics course and study some advanced micro topics in some depth. We shall begin with competitive markets and study the fundamental welfare theorems in partial equilibrium. Then we shall study the theory of general equilibrium and discuss the pure exchange economy, the notion of the core, existence of equilibrium and welfare theorems in general equilibrium. We shall then study information economics (principal-agent models, signaling, adverse selection), some topics on social choice (Arrow's impossibility theorem) and mechanism design (Vickrey-Clarke-Groves mechanism, Gibbard-Satherwaite theorem). Prerequisite: EF8901 Microeconomics I or equivalent. 1 Credit

EF9902 Macroeconomics II
This course is a continuation of EF8902. It formally analyzes benchmark models used in modern macroeconomic theory and their application in addressing various economic issues. Topics to be covered include growth theory, dynamic programming, monetary and fiscal policy and incomplete markets theory. The MATLAB software package will be used to numerically solve some of the models under study. Prerequisite: EF8902 Macroeconomics I or equivalent. 1 Credit

EF9903 Econometrics II
This is a course intended for PhD students and is a required course in econometrics. The course continues on from where Econometrics I finished. It deals primarily with the asymptotic distribution theory of nonlinear least squares, the generalized method of moments, and maximum likelihood. Other topics include specification testing, binary response models, panel data methods, simultaneous equations estimators, state space models and Monte Carlo methods. Prerequisite: EF8903 Econometrics I or equivalent. 1 Credit

EF9904 Mathematical Economics
The field of economics has become more technical over the years. Macroeconomic models often involve the solution of complex dynamic optimization problems. In microeconomics, the relaxation of the assumptions of perfect information and complete markets requires the use of advanced mathematical tools that are usually not familiar to students entering the field. The objective of this course is to provide the students with the technical tools and concepts that they will use in their graduate economic courses. Topics include: linear algebra, set and measure theory, convex analysis, and optimization and fixed point theory. A significant part of the course is devoted to economic applications that illustrate how the concepts and techniques are used in the different areas of economics. These applications are designed for the students to recognize the link between mathematical and economic theory.

1 Credit

EF9905 Advanced Topics in International Trade
The field of international trade has evolved in several new directions in the last few years. By merging international trade theory with other fields in economics, these new areas of research contribute to a better understanding of the effects that that trading with other nations has on a country's economy. This course goes beyond traditional courses in international trade theory and introduces the students to frontier research in the international trade field. The course is designed for advanced second year PhD students who have already taken a course in international trade theory and, therefore, are already familiar with the basic trade models. Topics include: (i) firm-level international trade theories and quantitative implications; (ii) the role of multinationals, FDI, and outsourcing; (iii) dynamic models of trade; and (iv) the political economy of international trade. Prerequisite: EF9901 Microeconomics II.
1 Credit

EF9906 Theory and Methods in International Finance
The objective of this course is to examine the theoretical and empirical connections between national asset markets. Topics may include time series econometrics, international financial markets, hedging currency exposure, exchange rate determination, efficiency of foreign exchange markets, international parity conditions and choice of exchange rate regime. Prerequisite: EF9902 Macroeconomics II. 1 Credit

EF9907 Game Theory with Applications to Industry and Trade
This course offers an introduction to game theory, together with some its economic applications. The purpose of this course is to provide the students with a good background in game theory in order to pursue research in fields such as international trade and industrial organization. Prerequisite: EF8901 Microeconomics or equivalent, or permission from the instructor. 1 Credit

EF9908 Asset Pricing and Finance
This course is an introduction to modern asset pricing theories and applications. It examines asset pricing theories from the perspectives of stochastic dynamic macroeconomic models and recent developments in the theory of finance. Topics to be covered include the pricing of stocks, bonds, options, portfolio theory, the term structure of interest rates, real investments and heterogeneous agent models. The empirical aspects of asset pricing theories will be examined using modern financial econometric techniques such as the generalized method of moments (GMM). Prerequisite: EF9902 Macroeconomics II. 1 Credit

EF9909 Numerical Methods in Economics
Economic models have become increasingly sophisticated in order to better capture the inherent complexities of real-world behaviour. The majority of these models however cannot be solved analytically using the standard mathematical tools of calculus and algebra. For this reason economists frequently need to resort to numerical methods. The objective of this course is to introduce students to various computational techniques and their application to economic analysis. Topics to be covered include solution of linear and nonlinear systems of equations, optimization, numerical integration and differentiation, and numerical dynamic programming. The MATLAB software package will be used to illustrate the various techniques and for completing the assignments in the course. Prerequisite: EF9904 Mathematical Economics. 1 Credit

EF9910 Trade and the Environment
This course introduces students to the relationships between international trade and the environment, including the potential linkages between trade policy and environmental policy. Topics include pollution havens, trade in natural resources, optimal tariffs, political economy, agglomeration, and environmental federalism. The course also examines the impacts of trade and trade liberalization on environmental policy and international environmental agreements. Prerequisite: EF9905 Advanced Topics in International Trade. 1 Credit

EF9911 Topics in Labour Economics
The purpose of this course is to familiarize graduate students with empirical techniques and theoretical ideas which are currently widely used in labour economics. Topics include neoclassical analysis of the labour market and its institutions; a systematic development of the theory of labour supply, labour demand, and human capital theory; theories of wage and employment determination, turnover, search, unemployment, equalizing differences, and union behaviour, with particular emphasis on the interaction of theoretical and empirical modeling. Prerequisite: EF9903 Econometrics II. 1 Credit