# 2015-2016 Graduate Calendar

The information published in this Graduate Calendar outlines the rules, regulations, curricula, programs and fees for the 2015-2016 academic years, including the Summer Semester 2015, Fall Semester 2015 and the Winter Semester 2016.

For your convenience the Graduate Calendar is available in PDF format.

If you wish to link to the Graduate Calendar please refer to the Linking Guidelines.

The University is a full member of:

• The Association of Universities and Colleges of Canada

Contact Information:

University of Guelph Guelph, Ontario, Canada N1G 2W1 519-824-4120

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# Disclaimer

The Office of Graduate Studies has attempted to ensure the accuracy of this on-line Graduate Calendar. However, the publication of information in this document does not bind the university to the provision of courses, programs, schedules of studies, fees, or facilities as listed herein.

### Limitations

The University of Guelph reserves the right to change without notice any information contained in this calendar, including any rule or regulation pertaining to the standards for admission to, the requirements for the continuation of study in, and the requirements for the granting of degrees or diplomas in any or all of its programs.

The university will not be liable for any interruption in, or cancellation of, any academic activities as set forth in this calendar and related information where such interruption is caused by fire, strike, lock-out, inability to procure materials or trades, restrictive laws or governmental regulations, actions taken by the faculty, staff or students of the university or by others, civil unrest or disobedience, Public Health Emergencies, or any other cause of any kind beyond the reasonable control of the university.

The University of Guelph reaffirms section 1 of the Ontario Human Rights Code, 1981, which prohibits discrimination on the grounds of race, ancestry, place of origin, colour, ethnic origin, citizenship, creed, sex, sexual orientation, handicap, age, marital status or family status.

The university encourages applications from women, aboriginal peoples, visible minorities, persons with disabilities, and members of other under-represented groups.

## **Collection, Use and Disclosure of Personal Information**

Personal information is collected under the authority of the University of Guelph Act (1964), and in accordance with Ontario's Freedom of Information and Protection of Privacy Act (FIPPA) <a href="http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90f31\_e.htm">http://www.e-laws.gov.on.ca/DBLaws/Statutes/English/90f31\_e.htm</a>. This information is used by University officials in order to carry out their authorized academic and administrative responsibilities and also to establish a relationship for alumni and development purposes. Certain personal information is disclosed to external agencies, including the Ontario Universities Application Centre, the Ministry of Training, Colleges and Universities, and Statistics Canada, for statistical and planning purposes, and is disclosed to other individuals or organizations in accordance with the Office of Registrarial Services Departmental Policy on the Release of Student Information. For details on the use and disclosure of this information call the Office of Registrarial Services at the University at (519) 824-4120 or see <a href="https://www.uoguelph.ca/registrar/">https://www.uoguelph.ca/registrar/</a>

### **Statistics Canada - Notification of Disclosure**

For further information, please see Statistics Canada's web site at http://www.statcan.gc.ca and Section XIV Statistics Canada.

### Address for University Communication

Depending on the nature and timing of the communication, the University may use one of these addresses to communicate with students. Students are, therefore, responsible for checking all of the following on a regular basis:

#### **Email Address**

The University issued email address is considered an official means of communication with the student and will be used for correspondence from the University. Students are responsible for monitoring their University-issued email account regularly.

#### **Home Address**

Students are responsible for maintaining a current mailing address with the University. Address changes can be made, in writing, through the Office of Graduate Studies.

### Name Changes

The University of Guelph is committed to the integrity of its student records, therefore, each student is required to provide either on application for admission or on personal data forms required for registration, his/her complete, legal name. Any requests to change a name, by means of alteration, deletion, substitution or addition, must be accompanied by appropriate supporting documentation.

### Student Confidentiality and Release of Student Information Policy Excerpt

The University undertakes to protect the privacy of each student and the confidentiality of his or her record. To this end the University shall refuse to disclose personal information to any person other than the individual to whom the information relates where disclosure would constitute an unjustified invasion of the personal privacy of that person or of any other individual. All members of the University community must respect the confidential nature of the student information which they acquire in the course of their work. Complete policy at <a href="http://www.uoguelph.ca/policies">http://www.uoguelph.ca/policies</a>.

# **Table of Contents**

Economics	. 71
Administrative Staff	. 71
Graduate Faculty	. 71
MA Program	
PhD Program	
Collaborative Programs	
Courses	

### **Economics**

The Department of Economics and Finance offers programs of study leading to the MA and PhD degrees in the following fields: 1) Econometrics, 2) Financial Economics, 3) Resources, Environment and Energy, 4) Development and Growth and 5) Applied Microeconomics.

- · Econometrics (PhD)
- Financial Economics (MA, PhD)
- · Resources, Environment and Energy (PhD)
- Development and Growth (PhD)
- Applied Microeconomics (PhD)

### Administrative Staff

#### Chair

Michael Hoy (725 MacKinnon, Ext. 52169) mhoy@uoguelph.ca

#### **Graduate Coordinator**

Thanasis Stengos (715 MacKinnon, Ext. 53917) tstengos@uoguelph.ca

#### Graduate Program Assistant Sandra Brown (727 MacKinnon, Ext. 56341)

sandilyn@uoguelph.ca

### Graduate Faculty

J. Atsu Amegashie

BA Ghana, MA Queen's, MA Dalhousie, PhD Simon Fraser - Professor Kurt Annen

MA, PhD Fribourg (Switzerland) - Associate Professor

C. Bram Cadsby

BSc London School of Economics, MA Queen's, PhD MIT - Professor

Laurent Cellarier

BA, MA Limoges (France); PhD Southern California - Associate Professor Brian S. Ferguson

BA Mount Allison, MA Guelph, PhD Australian National - Professor Talat Genc

BS, MA Bogazici, MA, Ms, PhD Arizona - Associate Professor

Johanna Goertz

BSc Bonn, MA, PhD Ohio State - Assistant Professor

### Louise A. Grogan

BSc London School of Economics, MA Catholique de Louvain, PhD Amsterdam -Associate Professor

### Michael J. Hov

BMath Waterloo, PhD London School of Economics - Professor Kris E. Inwood

BA Trent, MA, PhD Toronto - Professor Rene Kirkegaard

BA, MSc, PhD Aarhus - Associate Professor

Stephen Kosempel

BA Queen's, MA Victoria, PhD Simon Fraser - Associate Professor and Chair Mei Li

BA, MA Wuhan, MA, PhD Queen's - Assistant Professor

### Patrick Martin

BA California (Irvine), MA Cornell, PhD Guelph - Assistant Professor

### Alex Maynard

BA Cornell, MA, MPhil, PhD Yale - Professor

Chris J. McKenna

#### BSc Salford, DPhil York - Professor Ross McKitrick

BA Queen's, MA, PhD British Columbia - Professor and Graduate Co-ordinator

#### Miana Plesca

BSc Technical University of Cluj (Romania); MA Georgetown (Washington, D.C.); PhD Western Ontario - Assistant Professor

#### David M. Prescott

BA Durham, MA Warwick, PhD Queen's - Professor

#### Asha Sadanand

BSc, MA Alberta, PhD California Institute of Technology - Professor

### Thanasis Stengos

BSc, MSc London School of Economics, PhD Queen's - Professor

#### Yiguo Sun

BSc Hebei Normal, MSc Hebei Teacher's, MA Guelph, PhD Toronto - Associate Professor Francis Tapon

DES Paris, MBA Columbia, MA, PhD Duke - Professor

#### Henry Thille

BComm Saskatchewan, MA, PhD British Columbia - Associate Professor Ilias Tsiakas

### BA Toronto, MA York, PhD Toronto - Associate Professor

### MA Program

The MA program contains core courses in theory and quantitative methods.

#### **Admission Requirements**

The university requires that students have the equivalent of an honours degree at the baccalaureate level.

Admission to the MA program requires that students have a solid background in economic theory and econometrics from a recognized undergraduate program. Normally, the Department requires a 'B+' average as a minimum.

Students whose background is not in economics but who are otherwise outstanding should consult the Department website for further information. Applicants whose background in economics is difficult to evaluate may be granted admission as a provisional graduate student for one semester. If, at the end of the semester, the Department is satisfied with the student's progress, it will recommend to the Assistant VP of Graduate Studies that the student be transferred to regular graduate student status.

Program offices should be consulted for admission deadlines.

#### **Degree Requirements**

The MA requires the completion of 4 course credits. Most one-semester courses have 0.5 course credits. With approval from the Department, up to 1 credit of the required 4 credits can be taken outside the Department of Economics and Finance. However students may, with approval, take additional courses from other Departments provided that their program includes at least six course equivalents (3.0 credits) from the Department of Economics and Finance. The minimum duration of the program is 2 semesters of full-time study as a regular graduate student.

There are two main routes to the MA in Economics: by course work and major paper, and by course work and thesis. Most candidates pursue the first route.

#### MA by course-work and major paper

Students complete the core courses (1.5 credits), 3 additional courses (1.5 credits) and the Research Project (1.0 credit):

ECON*6000	[0.50]	Microeconomic Theory I	
ECON*6020	[0.50]	Macroeconomic Theory I	
ECON*6180	[0.50]	Econometric Methods	
OR			
ECON*6140	[0.50]	Econometrics I	
1.5 additional cred	lits		
plus			
ECON*6940	[1.00]	Research Project	
MA by Thesis		·	
Students complete thesis.	the core c	ourses (1.5 credits) 1 additional courses (.5 credits) and a	
ECON*6000	[0.50]	Microeconomic Theory I	
ECON*6020	[0.50]	Macroeconomic Theory I	
ECON*6180	[0.50]	Econometric Methods	
OR			
ECON*6140	[0.50]	Econometrics I	
0.5 additional cred	lit		
and a thesis			
MA by Cours	e Work i	n the Field of Financial Economics	
ECON*6000	[0.50]	Microeconomic Theory I	
ECON*6140	[0.50]	Econometrics I	
ECON*6320	[0.50]	International Finance	
ECON*6380	[0.50]	Financial Economics	
ECON*6390	[0.50]	Empirical Finance and Financial Econometrics	
ECON*6930	[0.50]	Reading Course	
One of the following restricted electives			
ECON*6020	[0.50]	Macroeconomic Theory I	
ECON*6490	[0.50]	Money and Banking	
AND			

#### ECON\*6950 [0.50] Finance Research Project

### PhD Program

The objective of the PhD program is to train individuals who already have a strong background in economics to become independent and skilled researchers, in preparation for a career in academia, government or the private sector. Course offerings cover a broad range of topics in theoretical and applied economics. PhD candidates may write a dissertation in any of the areas of expertise of the graduate faculty in the Department.

Graduates are expected to have demonstrated competence at an advanced level in the core areas of Microeconomic theory, Macroeconomic theory, and Econometrics, to have demonstrated competence at the cutting edge of knowledge in their area of specialization and advanced competence in at least one other area, and to have demonstrated mature scholarship, research and communication abilities.

### **Admission Requirements**

Applicants to the PhD program should have a master's degree in economics with a minimum average of 80% (A-) in their postgraduate studies. Applicants without a master's degree but with an outstanding record at the baccalaureate level, may be admitted initially to the MA program in economics. For students who achieve a superior record and show an aptitude for research, The Board of Graduate Studies, on the recommendation of the Department, may authorize transfer to the PhD program without requiring the student to complete a master's degree.

### **Degree Requirements**

The program requires the satisfactory completion of a minimum of 12 courses covering core theory, econometrics, and field courses. (Students with an MA will be given credit for courses already in hand, where appropriate). The following sequence of milestones represents the typical path through the PhD program.

### Year I: Core Courses

Students must complete the following courses, in preparation for the comprehensive examinations in economic theory, which is written at the end of Year I:

### Econometrics

ECON*6140 ECON*6160	[0.50] [0.50]	Econometrics I Econometrics II	
Theory	[0.30]	Econometrics II	
ECON*6000	[0.50]	Microeconomic Theory I	
ECON*6010	[0.50]	Microeconomic Theory II	
ECON*6020	[0.50]	Macroeconomic Theory I	
ECON*6040	[0.50]	Macroeconomic Theory II	
Voor II. Discontation Drangeol			

### Year II: Dissertation Proposal

After the theory comprehensive exams are passed, students must prepare a PhD proposal under the supervision of a faculty member. Proposals are presented to the Department at a symposium, and upon acceptance the Graduate Coordinator will notify the Assistant VP of Graduate Studies that the student has passed the "Qualifying Examination" requirement as set out by the Faculty of Graduate Studies. At this point, the student becomes a "candidate" for the PhD.

### Year III and IV: Thesis

Submission and defence of an acceptable thesis on a topic approved by the student's advisory committee completes the requirements for the PhD. The thesis is expected to be a significant and original contribution to knowledge in its field and must demonstrate scholarship and critical judgement on the part of the candidate. Theses must be submitted within 48 months of completing the minimum duration.

### **Collaborative Programs**

### **International Development Studies MA**

The Department of Economics and Finance participates in the collaborative International Development Studies (IDS) program. Applicants for this program enter through one of the participating departments; course selections are based, in part, on the applicant's primary discipline. Those faculty members in the Department of Economics and Finance whose research and teaching expertise includes aspects of international development studies may serve as advisors for these MA students. Please consult the International Development Studies listing for a detailed description of the MA collaborative program including the special additional requirements for each of the participating departments.

### Courses

Economic 7	Theory
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ECON*6000 Microeconomic Theory I U [0.50]	

A first graduate course in microeconomics, presenting a rigorous treatment of consumer theory, producer theory, applications of duality, partial equilibrium, general equilibrium and the fundamental theorems of welfare economics.

Department(s): Department of Economics and Finance

ECON\*6010 Microeconomic Theory II U [0.50]

Advanced topics in modern microeconomics to include elements of game theory, information economics, economics of risk and uncertainty, the theory of incentives and others.

## Prerequisite(s): ECON\*6000

Department(s): Department of Economics and Finance

ECON\*6020 Macroeconomic Theory I U [0.50]

A first graduate course in macroeconomics, presenting a rigorous introduction to the tools and basic models of dynamic general equilibrium theory. The topics covered include economic growth and development, economic fluctuations, and monetary and fiscal policies.

*Department(s):* Department of Economics and Finance

## ECON\*6040 Macroeconomic Theory II U [0.50]

This course considers the dynamics resulting from intertemporal optimization models. Foundations of unemployment theory. Approaches to business cycles. Models of long-run growth.

Prerequisite(s): ECON\*6020

Department(s): Department of Economics and Finance

### ECON\*6060 Mathematical Methods for Economics F [0.00]

This course is designed to provide students with the necessary mathematical tools to follow the contents of the core economics and econometrics courses in the MA program and successfully complete them. The material covered will include advanced topics in linear algebra, multivariate optimization techniques and comparative statics.

Department(s): Department of Economics and Finance

### ECON\*6090 Game Theory U [0.50]

This course introduces the student to game theory, which is an important tool for modelling economic situations with multi-person interaction. Economic applications such as oligopoly, bargaining, auctions, and public goods provision will be discussed. Broader applications to voting games, candidate strategy, war games, and parlour games will also be briefly discussed. Students need to be very familiar with optimization and single person decision-making.

Department(s): Department of Economics and Finance

### ECON\*6100 Experimental Economics U [0.50]

This course examines the use of the experimental methodology in economics. We will study how experiments have been used to test theories in many subfields within economics. In the process, students will learn how to construct and run economics experiments and analyze experimental data.

Department(s): Department of Economics and Finance

### ECON\*6110 Mathematical Economics U [0.50]

This course introduces students to the mathematical techniques used in advanced economic analysis. Topics covered in any year: analysis of dynamic economic models and optimization in dynamic economic models.

Department(s): Department of Economics and Finance

### Econometrics

### ECON\*6050 Introduction to Econometric Methods U [0.50]

Introduction to the specification, estimation and testing of economic models. Topics include the classical linear regression model, t tests, structure tests, specification error, the consequences of the violation of the classical assumptions, detection and correction of autocorrelation and heteroscedasticity.

Department(s): Department of Economics and Finance

### ECON\*6140 Econometrics I U [0.50]

Topics include a review of the classical linear regression model, applications of generalized least squares, maximum likelihood methods and various statistical test procedures.

Department(s): Department of Economics and Finance

### ECON\*6160 Econometrics II U [0.50]

Topics include maximum likelihood as a method of estimation and inference, nonlinear estimation and simultaneous equations. Also more specialized topics such as limited-dependent-variable models and non-parametric regression methods may be covered.

Department(s): Department of Economics and Finance

### ECON\*6170 Topics in Econometrics U [0.50]

This is an advanced econometrics topics course that covers the area of non-parametric and semiparametric estimation and testing of econometrics models, including time series and panel data semiparametric models.

Department(s): Department of Economics and Finance

### ECON\*6180 Econometric Methods U [0.50]

This course follows ECON\*6050. It covers estimation by instrumental variables, estimations of simultaneous systems, asymptotic distribution theory, maximum likelihood estimation, binary choice and limited dependent variable models, and issues in time series analysis.

Department(s): Department of Economics and Finance

#### **Economic History**

### ECON\*6200 Economic History U [0.50]

This course considers topics in economic history which vary from year to year. The emphasis will be usually on late-19th or 20th century topics and often involves a world emphasis. Student presentations and papers form a large part of the course. *Department(s):* Department of Economics and Finance

### ECON\*6370 Economic Development in Historical Perspective U [0.50]

This course will examine the experience of economic development focusing on the emergence of the Third World. Topics for discussion will vary from year to year; they may include the impact of trade expansion during the eighteenth and nineteenth centuries, the role of manufacturing as a leading sector, statist vs. the new classical approaches to government policy, and others.

Department(s): Department of Economics and Finance

#### **Money and Finance**

#### ECON\*6320 International Finance U [0.50]

This course deals with the theoretical policy and issues of international finance. Topics may include exchange rate determination, capital flows in international markets, the financing of trade flows, and open economy macroeconomic models and policy issues. *Department(s):* Department of Economics and Finance

### ECON\*6380 Financial Economics U [0.50]

This course has three objectives: (i) build a common background for all students in asset pricing and corporate finance in order to facilitate discussion of finance research; (ii) provide an in-depth look at selected finance topics, and (iii) expose students to top published research papers.

*Department(s):* Department of Economics and Finance

#### ECON\*6390 Empirical Finance and Financial Econometrics U [0.50]

This course covers topics in empirical finance, involving the integration of financial theory, financial econometrics, and data analysis. Students will learn how empirical research in finance is conducted through reading involving both textbooks and journal articles and from conducting an independent research project.

*Co-requisite(s):* ECON\*6140

Department(s): Department of Economics and Finance

### ECON\*6490 Money and Banking U [0.50]

This course studies monetary economies using overlapping generations models, MIU models and CIA models. More specifically, we will study major issues in money and banking, such as the role of money and banks, the cost of inflation, and the optimal monetary policies.

*Department(s):* Department of Economics and Finance

#### **Developmental Economics**

#### ECON\*6350 Economic Development U [0.50]

This course examines economic development from an international perspective: theories, history, policies and prospects.

Department(s): Department of Economics and Finance

#### Labour Economics

#### ECON\*6600 Labour Economics U [0.50]

Major themes in labour market theory including static and dynamic labour demand and supply, migration and wage structures and dynamics, unemployment, migration and the role of social programs.

Department(s): Department of Economics and Finance

#### ECON\*6610 Topics in Labour Economics U [0.50]

This course complements ECON\*6600. Topics include advanced issues in family labour supply, human capital, wage bargaining and contract theory, search theory, duration analysis and its application to major labour market spells such as employment and unemployment.

Department(s): Department of Economics and Finance

#### **Environmental and Resource Economics**

ECON\*6800 Environmental Economics U [0.50]

A topics course concerning the interrelationships between economic activities and the state of the natural environment. Topics may include: pollution and economic growth; energy use and environmental quality; international trade and pollution; policies for controlling pollution; techniques for assessing the benefits of environmental improvement. *Department(s):* Department of Economics and Finance

#### ECON\*6810 Economic Theory of Natural Resources Use U [0.50]

This course examines economic models of the use of non-renewable resources to analyze issues such as resource conservation, sustainable development, taxation of resource rents, and price determination in resource markets.

Department(s): Department of Economics and Finance

### Other

#### ECON\*6300 International Trade Theory U [0.50]

This course provides a rigorous treatment of both positive and normative aspects of trade theory through extensive use of general equilibrium models under varying assumptions. Topics may also include barriers to trade, international factor movements, growth and development, and strategic trade policy.

Department(s): Department of Economics and Finance

#### ECON\*6400 Public Finance U [0.50]

This course surveys the normative theory of the public sector. Topics may include public expenditure theory, tax theory, cost benefit analysis and fiscal federalism.

Department(s): Department of Economics and Finance

#### ECON\*6650 Economics of Social Welfare U [0.50]

This course deals with the analysis of social welfare programs, concentrating on national health insurance. It covers their structure, incentives and distribution effects, and includes empirical analysis of existing programs.

Department(s): Department of Economics and Finance

#### ECON\*6700 Industrial and Market Organization U [0.50]

The major topics of industrial organization are analyzed from both a game theoretic perspective and from a Structure-Conduct-Performance perspective. Typical topics include: oligopoly theory, determinants of industrial structure, Coase theorem, market entry, advertising, research and development, product differentiation, and price discrimination.

Department(s): Department of Economics and Finance

### ECON\*6750 Managerial Economics U [0.50]

The course introduces students to the latest developments in the economic analysis of the inside workings and organization of firms. The course tries to explain the diversity of economic organizations, and more generally why economic activity is sometimes carried out through firms and sometimes through markets. For graduate students outside the Department of Economics and Finance.

Department(s): Department of Economics and Finance

#### ECON\*6770 Financial Management U [0.50]

This course examines the implications of financing decisions made by firms in a world of uncertainty. Topics such as capital budgeting, capital structure, dividend policy, market efficiency and capital asset pricing will be analyzed from the perspective of corporate finance and portfolio management theory. Co-requisite: AGEC\*6070. For graduate students outside the Department of Economics and Finance.

Department(s): Department of Economics and Finance

### ECON\*6930 Reading Course U [0.50]

In some circumstances, students may arrange to take a reading course under the direction of a faculty member.

Department(s): Department of Economics and Finance

#### ECON\*6940 Research Project U [1.00]

All students who choose the research project option in the MA program will register in this course. Research projects are written under the direct supervision of a faculty member. Normally, research projects are completed within one or two semesters. Students must make a presentation of their work and a copy of the final report must be submitted to the Department before the final grade is submitted to the Office of Graduate Studies.

*Department(s):* Department of Economics and Finance

#### ECON\*6950 Finance Research Project S [0.50]

This program is a supervised research project exclusively for students in the Finance Specialization stream in the MA program. Students may elect either to write a major paper in a finance-related topic of to do a placement in a financial consulting company to conduct a structured portfolio analysis. Students must indicate their preference prior to the start of the summer semester to the Graduate Coordinator, who will oversee placements.

Prerequisite(s):	ECON*6000, ECON*6140, ECON*6380, ECON*6390, AND
	ECON*6930,
Restriction(s):	For students in the MA Economics Finance Specialization
Department(s):	Department of Economics and Finance