

MASTER OF ARTS APPLIED ECONOMICS (ECON)

Updated June 4, 2021

Graduate Program Committee Chair: M. O'Gorman; **Professors:** S. Baksi, P. Cyrenne, X-Y. Dong, H. Grant, M. Pandey, A. Ray Chaudhuri; **Associate Professors:** S. Dodds, M. O'Gorman, J. Townsend; J. Zhou; **Assistant Professors:** D. Ng, L. Clair, Z. Li

DEGREES/PROGRAMS OFFERED M.A.

The Master of Arts in Applied Economics (MAE) provides an opportunity for students to acquire competency in economic analysis, and to apply this knowledge either to the sub-fields of environmental and development economics or to analyzing contemporary economic policy. This program draws on the core strengths of the Department of Economics in the areas of environmental/development economics and a wide range of applied economics fields. This program will train highly-qualified students to master the use of modern analytical tools and to apply them to issues of regulation, health care, environmental policy, natural resource extraction, housing, poverty, labour issues and finance. This degree will prepare students for either further graduate studies or for employment in the public or private sector.

Graduates of the MAE program will study advanced microeconomics and macroeconomics, and will learn rigorous quantitative methods of analysis. Students also have the option of completing a research project as part of their degree program, and can introduce an interdisciplinary aspect into their studies by taking complementary elective courses from elsewhere in the University. Further information on the MAE program may be found at www.uwinnipeg.ca/MAE

REQUIREMENTS FOR THE M.A. IN APPLIED ECONOMICS

ADMISSION REQUIREMENT

Students must hold, or reasonably expect to hold by the time of entry into the program, an Honours Bachelor's degree. The minimum acceptable CGPA (Cumulative Grade Point Average) is 3.0 out of a possible 4.0, equivalent to "B" on a letter grade scale. The Department of Economics will assess degrees earned outside Canada to determine their equivalency.

An Honours B.A. in Economics with a strong quantitative background is the normal prerequisite for admission to the M.A. program. Applicants with high standing in another undergraduate discipline may also be eligible for admission, provided that they have adequate preparation in Economics. Applicants without sufficient background in Economics may be admitted to a Qualifying Year of the program.

The Graduate Record Examination (General Test) is recommended for students who do not have an undergraduate or graduate degree from a Canadian university.

Information on the University of Winnipeg's English Language Proficiency requirements can be found here: <http://www.uwinnipeg.ca/future-student/international/lang-req.html>

APPLICATION DEADLINE AND PROCEDURE

The deadline for applications is February 1st. The online application may be found at: <https://oa2.uwinnipeg.ca/OnlineAdmissions/Account/Login?ReturnUrl=%2fOnlineAdmissions>

PROGRAM REQUIREMENTS

Students must complete a total of 24 credit hours to graduate from the program. All students must complete the 4 Core courses listed below (for 12 credit hours total). There are then two possible streams, the first focusing on the sub-fields of environmental/natural resource economics and development economics, and the second focusing on a range of applied fields such as health economics, finance, regulation and public enterprises, etc., both requiring an additional 6 credit hours. Students then complete 6 credit hours of electives either from the Economics department (listed below), or from other departments across the university. These elective courses include a research project (GECON-7000) or a practicum (GECON-7002).

1. Environmental, Resource and Development Economics (ERDE) stream: Contemporary social and environmental concerns have focused attention on the sustainability of economic growth strategies pursued by different countries. The ERDE stream develops students' expertise in this area, allowing students to apply their skills in economic analysis to problems affecting low-income communities, resource use and the environment.

2. Policy Analysis (PA) stream – This stream provides the opportunity for students to apply their skills in economic analysis to a wide range of applied economics fields. Governments and the private sector are increasingly seeking economists with quantitative skills and the ability to apply those skills across a wide range of policy issues, from labour policy to finance. The PA stream develops students' expertise in cost-benefit analysis, public finance and policy analysis.

Upon entry into the program, students will meet with the Graduate Chair who will guide them in choosing their course of study. Questions regarding program requirements may be sent to: econgrad@uwinnipeg.ca

SECOND LANGUAGE REQUIREMENT: None

EXPECTED TIME TO GRADUATE: 1 year

MAXIMUM TIME REQUIRED TO GRADUATE: 3 years

COURSE LISTINGS

Core courses:

- **GECON-7200/0** MATH REVIEW FOR MAE STUDENTS
- **GECON-7102/3** MICROECONOMICS
- **GECON-7103/3** MACROECONOMICS
- **GECON-7201/3** APPLIED ECONOMETRICS
- **GECON-7003/3** COST-BENEFIT ANALYSIS AND VALUATION TECHNIQUES

Required ERDE stream courses:

- **GECON-7305/3** DEVELOPMENT ECONOMICS
- **GECON-7315/3** ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS

Required PA stream courses:

- Two of:
- **GECON-7303/3** TOPICS IN APPLIED ECONOMICS
 - **GECON-7313/3** TOPICS IN INDUSTRIAL ORGANIZATION AND COMPETITION POLICY
 - **GECON-7314/3** TOPICS IN PUBLIC ECONOMICS
 - **GECON-7316/3** TOPICS IN REGULATION AND PUBLIC ENTERPRISES
- May include a maximum of one of:
- **GPOL-7341/3** AN INDIGENOUS APPROACH TO PROGRAM EVALUATION
 - **GPOL-7385/3** SPECIAL TOPICS IN PUBLIC ADMINISTRATION
 - **GPOL-7505/3** POLITICS OF URBAN DEVELOPMENT

Electives:

- **GECON-7000/3** RESEARCH PROJECT
- **GECON-7001/3** SPECIAL STUDIES IN ENVIRONMENTAL, RESOURCE AND DEVELOPMENT ECONOMICS
- **GECON-7002/3** MAE PRACTICUM
- **GECON-7203/3** TOPICS IN MATHEMATICAL ECONOMICS
- **GECON-7305/3** DEVELOPMENT ECONOMICS
- **GECON-7307/3** TOPICS IN MACROECONOMICS
- **GECON-7310/3** TOPICS IN INTERNATIONAL ECONOMICS
- **GECON-7313/3** TOPICS IN INDUSTRIAL ORGANIZATION AND COMPETITION POLICY
- **GECON-7315/3** ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS
- **GECON-7321/3** TOPICS IN THE HISTORY OF ECONOMIC THOUGHT
- **GECON-7800/3** INVESTMENT THEORY AND APPLICATIONS
- **GECON-7801/3** OPTIONS, FUTURES AND DERIVATIVES

COURSE DESCRIPTIONS

Core courses

GECON-7200(0) MATH REVIEW FOR MAE STUDENTS (Le1) This course reviews the mathematical tools that are required for coursework in the Master of Arts in Applied Economics (MAE) program. It is presumed that students have a working knowledge of differentiation, partial differentiation, optimization of functions with multiple variables and basic matrix algebra. These concepts are reviewed and applied to economic techniques such as constrained optimization, comparative statics, concave programming and the Kuhn-Tucker conditions.
PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

GECON-7102(3) MICROECONOMICS (Le3) This course provides an introduction to microeconomic theory at the advanced level. We consider consumer choice theory with certainty and under uncertainty, producer theory, and general equilibrium theory in the first part of the course. The second part of the course is dedicated to modern microeconomics of strategic interactions, game theory and information. We consider static and dynamic games, Bayesian games, oligopoly, and markets with information asymmetry.
PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

GECON-7103/3 MACROECONOMICS (Le3) This course discusses growth theories, stressing their empirical implications and the relation of theory to data and evidence. The growth theories covered include neoclassical theories, Solow-Swan model and the Ramsey-Cass-Koopmans model, as well as endogenous growth theories. In addition, the

essentials of growth accounting and empirical analysis using cross-country datasets, with a particular emphasis on convergence, are discussed.
PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

GECON-7201(3) APPLIED ECONOMETRICS (Le3) This course covers methods of estimation and inference for single and simultaneous equations models, with an emphasis on the classical linear model. It also examines violations of the classical model that are commonly found in economic data, and develops procedures for estimation under these conditions.
PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor. GECON-7201L (lab) must be taken concurrently.

GECON-7003(3) COST-BENEFIT ANALYSIS AND VALUATION TECHNIQUES (Le3) This course examines the measurement and analysis of costs and benefits for project/policy evaluation. It describes the theoretical basis for applied welfare analysis and discusses empirical techniques for estimating use, option and existence values using observed behavior and stated preferences. Topics related to cost-benefit analysis such as discounting, integrated assessment models, and benefit transfer are studied. These concepts are applied for analyzing a variety of issues in the areas of environment, natural resources, health care and public expenditure analysis.
PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

Required ERDE stream courses:

GECON-7305(3) DEVELOPMENT ECONOMICS (Le3) This course provides an overview of the current literature on the economic growth and development of developing countries. Topics covered include economic growth, inequality, the role of geography, history, and institutions for sustainable growth, the internal structure of households, human capital, and the functioning of factor markets. The objective of the course is to introduce students to some of the most active new areas of research on economic development and to apply the analytical and empirical tools for studying some of the most pressing issues faced by developing countries.

PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

GECON-7315(3) ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS (Le3) This course reviews the theoretical foundations of environmental and natural resources economics addressing issues such as externalities, regulation of polluting activities, and the role of natural resources in economic development. It examines environmental policy and resource extraction strategies in the context of complexities arising due to imperfect competition, international trade, and uncertainty. Dynamic optimization techniques are applied to analyze climate change and the efficient utilization of renewable and non-renewable resources such as fisheries, forestry, minerals and fossil fuels.

PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

Required PA stream courses:

GECON-7303(3) TOPICS IN APPLIED ECONOMICS (Le3)

This course examines issues in a selected area of economics. Possible areas include labour, health and development economics. The choice of topic depends on the instructor. The emphasis is on using empirical methods. Appropriate econometric techniques for addressing issues of endogeneity, selection bias, and unobserved heterogeneity may be covered. Students may repeat this course for credit, provided the topic varies.

PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

RESTRICTION: Students may not receive credit for this course if they already have credit in ECON-4303 or GECON-4303.

GECON-7314(3) TOPICS IN PUBLIC ECONOMICS (Le3)

This course deals with the theory of taxation and public expenditures within the context of first-best and second-best analysis. The theories of production, consumption, and other externalities are discussed. Other topics include the theory and practice of cost-benefit analysis and fiscal federalism. The economic analysis of collective decision-making in a non-market context is examined.

PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

RESTRICTION: Students may not receive credit for this course if they already have credit in ECON-4314 or GECON-4314.

GECON-7313(3) TOPICS IN INDUSTRIAL ORGANIZATION AND COMPETITION POLICY (Le3)

This course examines industrial organization theory, which is the field in economics that examines the conduct and behaviour of firms in imperfectly competitive markets. Given this setting, firms have an incentive to undertake strategies which enhance their profitability, and in analyzing these strategies, we discuss a number of key concepts from game theory. Included in the course is an analysis of the behaviour of monopoly firms and their use of a variety of pricing and marketing practices. In addition, the course examines the effect of quality and durability of goods and the use of warranties by firms on social welfare.

PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

RESTRICTION: Students who have already taken ECON-4313 cannot enrol in this course for credit, unless the topic varies.

GECON-7316(3) TOPICS IN REGULATION AND PUBLIC ENTERPRISES (Le3)

This course examines a number of issues in the economics of regulation. Regulation is one form of government control of private firm behaviour, and involves control over the entry of firms, limits on pricing, and the regulations involving industry standards and operations, including environmental regulation. The course examines theories of regulation, the types of regulatory rules used, and the efficacy of those rules in enhancing social welfare. Reference will be made to a number of regulated industries both in Canada and the U.S.

PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

RESTRICTION: Students may not receive credit for this course if they already have credit for ECON-4316 or GECON-4316.

GPOL-7341(3) AN INDIGENOUS APPROACH TO

PROGRAM EVALUATION: THEORY & PRACTICE (S3)

This is an experiential learning course that introduces students to the purpose and practice of Indigenous evaluation, as well as some of the analytical tools used by evaluators, both Indigenous and mainstream. An Indigenous approach to evaluation is a strengths-based exercise. It is committed to respecting the community's values and traditional ways of knowing. Students will be given practical experiences in preparing data collection instruments, gathering data from program participants and other stakeholders, and interpreting the data. The course will also explore how an Indigenous approach to evaluation can be merged with the objectives of mainstream funders and other external stakeholders.

PREREQUISITES: Students must be enrolled in the MAE program and obtain consent from the Instructor.

GPOL-7385(3) SPECIAL TOPICS IN PUBLIC

ADMINISTRATION (S3)

The course concentrates on a topic of primary relevance to students of public administration. Examples of such topics are the role of public bureaucracy in Canadian federalism, the regulatory process in Canada, the role of Crown corporations, issues in health care policy, public administration in Manitoba, and gender and public policy. The course may be repeated for credit when the topic varies.

PREREQUISITES: Students must be enrolled in the MAE program and obtain consent from the Instructor.

GPOL-7505(3) POLITICS OF URBAN DEVELOPMENT (S3)

Urban development, understood as the growth and change of the urban built form and environment, has a tremendous impact on the lives and livelihoods of residents who reside in urban areas. As a result, urban development and planning is one of the most important policy areas for municipal government, and a significant source of political conflict at the local level. This course compares and contrasts the politics of urban development in cities in North America and abroad, by examining the forces (actors, institutions, and the economy) that shape the development and planning policies of cities.

PREREQUISITES: Students must be enrolled in the MAE program and obtain consent from the Instructor.

Electives:

GECON-7000(3) RESEARCH PROJECT (P)

The aim of this course is to provide students in the MAE with an opportunity to undertake a research project, and to present it in a written essay. Instructors of this course will provide guidance to students on how to make an effective economic argument. Students choose the topic of their project in consultation with their instructor. PREREQUISITES: Students must be enrolled in the MAE program and obtain written permission from the Graduate Program Committee.

GECON-7001(3) SPECIAL STUDIES IN ENVIRONMENTAL, RESOURCE AND DEVELOPMENT ECONOMICS (V) This course provides students of the MAE with an opportunity to explore topics related to environmental, resource and development economics but not covered by existing MAE courses. The course can either take a Directed Readings format, or represent the graduate-level version of an Honours course outside of Economics. In the latter case, students must choose from the list of non-Economics elective courses approved by the Graduate Program Committee and available on the MAE website.

RESTRICTIONS: Students must be enrolled in the MAE program. Students must obtain permission from the Graduate Program Committee (GPC) to register for this course. In the case of the Directed Readings format, they must submit the syllabus for the course (prepared by the instructor of the course) to the MAE GPC for approval. In the case of a graduate version of an Honours non-Economics course, instructors must agree to provide a course syllabus for GPC approval that includes additional work/differential evaluation for MAE students compared to Honours students in the course.

GECON-7002(3) MAE PRACTICUM (A) This course provides students of the MAE with an opportunity to obtain experience with research or policy analysis related to applied economics. Placements will either be with a Canadian research institute, to give students an opportunity to conduct (and contribute to) policy-related research, or with a Canadian non-governmental organization, to provide hands-on, practical experience with policy analysis. **PREREQUISITES:** Students must be enrolled in the MAE program and obtain written permission from the Graduate Program Committee.

GECON-7203(3) TOPICS IN MATHEMATICAL ECONOMICS (Le3) This course introduces advanced mathematical methods for formulating and analyzing economic theories and problems. Topics such as difference and differential equations, dynamic optimization, and game theory are presented with economic applications. **PREREQUISITES:** Students must be enrolled in the MAE program or obtain consent from the Instructor. **RESTRICTION:** Students may not receive credit for this course if they already have credit in ECON-4203 or GECON-4203.

GECON-7305(3) DEVELOPMENT ECONOMICS (Le3) This course provides an overview of the current literature on the economic growth and development of developing countries. Topics covered include economic growth, inequality, the role of geography, history, and institutions for sustainable growth, the internal structure of households, human capital, and the functioning of factor markets. The objective of the course is to introduce students to some of the most active new areas of research on economic development and to apply the analytical and empirical tools for studying some of the most pressing issues faced by developing countries. **PREREQUISITES:** Students must be enrolled in the MAE program or obtain consent from the Instructor.

GECON-7307(3) TOPICS IN MACROECONOMICS (Le3) This course provides students with an opportunity to build on the macroeconomics background they have developed in Honours Macroeconomics and graduate Macroeconomics. The course introduces students to dynamic macroeconomic models and techniques for solving them, highlighting the use of such models and techniques for understanding the implications of macroeconomic policy. Emphasis is placed on the importance of political economy considerations in macroeconomics. Issues covered in any given year may include the interplay between demographics and fiscal policy, the determinants of policy related to technology adoption and therefore economic growth, income redistribution or the determination of monetary policy. **PREREQUISITES:** Students must be enrolled in the MAE program or obtain consent from the Instructor. **RESTRICTION:** Students may not receive credit for this

course if they already have credit in ECON-4307 or GECON-4307, unless the topic varies.

GECON-7310(3) TOPICS IN INTERNATIONAL ECONOMICS (Le3) This course examines theoretical and applied topics related to international trade or international finance. Topics related to international trade may include a discussion of the benefits of trade, the effects of tariffs and quotas, customs unions and imperfect competition on trade. Topics related to international finance may include an examination of exchange rate policy, the fiscal and monetary effects of trade investment flows, and the development of the international monetary system.

PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

RESTRICTION: Students may not receive credit for this course if they already have credit in ECON-4310 or GECON-4310.

GECON-7313(3) TOPICS IN INDUSTRIAL ORGANIZATION AND COMPETITION POLICY (Le3) This course examines industrial organization theory, which is the field in economics that examines the conduct and behaviour of firms in imperfectly competitive markets. Given this setting, firms have an incentive to undertake strategies which enhance their profitability, and in analyzing these strategies, we discuss a number of key concepts from game theory. Included in the course is an analysis of the behaviour of monopoly firms and their use of a variety of pricing and marketing practices. In addition, the course examines the effect of quality and durability of goods and the use of warranties by firms on social welfare.

PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

RESTRICTION: Students may not receive credit for this course if they already have credit in ECON-4313 or GECON-4313.

GECON-7315(3) ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS (Le3) This course reviews the theoretical foundations of environmental and natural resources economics addressing issues such as externalities, regulation of polluting activities, and the role of natural resources in economic development. It examines environmental policy and resource extraction strategies in the context of complexities arising due to imperfect competition, international trade, and uncertainty. Dynamic optimization techniques are applied to analyze climate change and the efficient utilization of renewable and non-renewable resources such as fisheries, forestry, minerals and fossil fuels. **PREREQUISITES:** Students must be enrolled in the MAE program or obtain consent from the Instructor.

GECON-7321(3) TOPICS IN THE HISTORY OF ECONOMIC THOUGHT (Le3) The economic and philosophical writings of Keynes and the "Cambridge Circus" are examined in the historical and social context of the times.

PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

RESTRICTION: Students may not receive credit for this course if they already have credit in ECON-4311, unless the topic varies.

GECON-7800(3) INVESTMENT THEORY AND APPLICATIONS (Le3) This course introduces students to the main financial instruments that are used in the investment industry, including a detailed description of financial instruments and how they are traded in financial markets. A brief review of portfolio theory is presented including a discussion of a number of key models of modern finance, including the Capital Asset Pricing Model and the Arbitrage Pricing Theory. The course also includes a detailed examination of the role and operation of fixed-income securities and equities. The course concludes with a discussion of the role and techniques of passive versus active portfolio management.

PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

RESTRICTION: Students who have already taken ECON-4800 cannot enrol in this course for credit, unless the topic varies.

GECN-7801(3) OPTIONS, FUTURES AND DERIVATIVES

(Le3) This course is designed to provide an in-depth analysis of a number of topics in modern finance theory and applications. The main areas that are examined include Futures Markets, Option Markets and Derivatives. These financial instruments play a key role in the management of risk by firms, and have attracted increasing interest from private sector firms and the larger community. The role of these instruments in the financial markets and their effect on the financial system is examined in detail.

PREREQUISITES: Students must be enrolled in the MAE program or obtain consent from the Instructor.

RESTRICTION: Students who have already taken ECON- 4801 cannot enrol in this course for credit, unless the topic varies.