

# MASTER OF ARTS ENVIRONMENTAL, RESOURCE AND DEVELOPMENT ECONOMICS (ECON)

Updated April 24, 2018

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

## DEGREES/PROGRAMS OFFERED M.A.

The Master of Arts in Environmental, Resource and Development Economics (ERDE) provides an opportunity for students to acquire competency in economic analysis, and to apply this knowledge to problems affecting low-income communities, resource use and the environment. Contemporary social and environmental concerns have focused attention on the sustainability of economic growth strategies pursued by different countries. The ERDE program investigates these issues with the use of modern analytical tools, and develops students' expertise in environmental, resource, and development economics.

Graduates of the ERDE 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 ERDE program may be found at [www.uwinnipeg.ca/erde](http://www.uwinnipeg.ca/erde)

## REQUIREMENTS FOR THE M.A. IN ENVIRONMENTAL, RESOURCE AND DEVELOPMENT 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://oa.uwinnipeg.ca/OnlineAdmissions/Account/Login?ReturnUrl=%2fOnlineAdmissions%2f>

Completed application forms should be submitted to:

Graduate Studies Admissions Office  
Graduate Studies Enrolment and Budget Officer  
The University of Winnipeg  
1BC10A-515 Portage Avenue  
Winnipeg, Manitoba R3B 2E9  
phone: 204.786.9309  
fax: 204.774.4134  
email: [d.habtemariam@uwinnipeg.ca](mailto:d.habtemariam@uwinnipeg.ca)

### PROGRAM REQUIREMENTS

Students must complete a total of 24 credit hours to graduate from the program. All students must complete the 6 Core courses listed below (for 18 credit hours total). There are three possible options for their remaining 6 credit hours:

- Option 1: Course Work and Research Project - Students complete a 6 credit hour research project over the Winter and Spring/Summer semesters, under the supervision of an Economics faculty member.
- Option 2: Course Work and Practicum – A 6 credit hour practicum allows students with the opportunity to turn their theoretical knowledge of environmental, resource and development economics into practical skills by working with a Canadian government agency or non-governmental organization.

- Option 3: Course Work Only – Students complete 6 credit hours of elective courses either from the Economics department (listed below), or from other departments across the university. The list of eligible electives from other departments may be found at: <http://www.uwinnipeg.ca/economics/graduate/electives.html>

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](mailto:econgrad@uwinnipeg.ca)

**SECOND LANGUAGE REQUIREMENT:** None

EXPECTED TIME TO GRADUATE: 1 year

MAXIMUM TIME REQUIRED TO GRADUATE: 5 years

## Economics Department Courses

### Core courses:

- **GECON-7102/3** MICROECONOMICS
- **GECON-7103/3** MACROECONOMICS
- **GECON-7201/3** APPLIED ECONOMETRICS
- **GECON-7305/3** DEVELOPMENT ECONOMICS
- **GECON-7311/3** NATURAL RESOURCE ECONOMICS
- **GECON-7317/3** ENVIRONMENTAL ECONOMICS

### Electives:

- **GECON-7001/3** SPECIAL STUDIES IN ENVIRONMENTAL, RESOURCE AND DEVELOPMENT ECONOMICS
- **GECON-7203/3** TOPICS IN MATHEMATICAL ECONOMICS
- **GECON-7303/3** TOPICS IN APPLIED ECONOMICS
- **GECON-7307/3** TOPICS IN MACROECONOMICS
- **GECON-7310/3** TOPICS IN INTERNATIONAL ECONOMICS
- **GECON-7311/3** TOPICS IN THE HISTORY OF ECONOMIC THOUGHT
- **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

### Research Project

- **GECON-7000/6** RESEARCH PROJECT

### Practicum

- **GECON-7002/6** ERDE PRACTICUM

## COURSE DESCRIPTIONS

### Core courses

**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 ERDE 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 ERDE 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 ERDE program or obtain consent from the Instructor.

**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 ERDE program or obtain consent from the Instructor.

**GECON-7311(3) NATURAL RESOURCE ECONOMICS (Le3)** This course reviews the normative foundations of natural resource economics, addressing concepts such as efficiency, intergenerational equity and sustainability. Renewable and non-renewable resources such as forestry, fisheries, renewable energy, and fossil fuels are considered. The course further examines (i) the role of natural resources in

economic development, and (ii) natural resource management under various market structures, regulatory regimes, and the existence of non-consumptive values.  
PREREQUISITES: Students must be enrolled in the ERDE program or obtain consent from the Instructor.

**GECON-7317(3) ENVIRONMENTAL ECONOMICS (Le3)** This course examines the interaction amongst economic activities/policies, environmental damage and social welfare. The course pursues an analytical approach to understanding the theoretical foundations for environmental economics – externalities, public goods and the regulation of polluting activities. It examines environmental policy in the context of complexities arising due to imperfect competition, international trade, regulatory enforcement, and uncertainty. Specific attention is paid to environmental problems in developing countries, and to current international environmental issues such as climate change.

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

Electives:

**GECON-7001(3) SPECIAL STUDIES IN ENVIRONMENTAL, RESOURCE AND DEVELOPMENT ECONOMICS (V)** This course provides students of the M.A. in Environmental, Resource and Development Economics (ERDE) program with an opportunity to explore topics related to environmental, resource and development economics but not covered by existing ERDE 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 ERDE website.  
RESTRICTIONS: Students must be enrolled in the ERDE 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 ERDE 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 ERDE students compared to Honours students in the course.

**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 ERDE program or obtain consent from the Instructor.  
RESTRICTION: Students who have already taken ECON-4203 cannot enrol in this course for credit, unless the topic varies.

**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 ERDE program or obtain consent from the Instructor.  
RESTRICTION: Students who have already taken ECON-4303 cannot enrol in this course for credit, unless the topic varies.

**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 ERDE program or obtain consent from the Instructor.  
RESTRICTION: Students who have already taken ECON-4307 cannot enrol in this course for credit, 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 ERDE program or obtain consent from the Instructor.  
RESTRICTION: Students who have already taken ECON-4310 cannot enrol in this course for credit, unless the topic varies.

**GECON-7311(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 ERDE program or obtain consent from the Instructor.  
RESTRICTION: Students who have already taken ECON-4311 cannot enrol in this course for credit, unless the topic varies.

**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 ERDE 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-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 ERDE program or obtain consent from the Instructor.  
RESTRICTION: Students who have already taken ECON-4314 cannot enrol in this course for credit, unless the topic varies.

**GECON-7316(3) TOPICS IN REGULATION AND**

**PUBLIC ENTERPRISES** 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 ERDE program or obtain consent from the Instructor.  
RESTRICTION: Students who have already taken ECON-4316 cannot enrol in this course for credit, unless the topic varies.

Research Project

**GECON-7000(6) RESEARCH PROJECT (P)** The aim of this course is to provide students in the M.A. in Environmental, Resource and Development Economics 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 ERDE program and obtain written permission from the Graduate Program Committee.

Practicum

**GECON-7002(6) ERDE PRACTICUM (A)** This course provides students of the M.A. in Environmental, Resource and Development Economics (ERDE) program with an opportunity to obtain experience with research or policy analysis related to environmental, resource and development economics. Placements will either be with a Canadian research institute, to give students an opportunity to conduct (and contribute to) policy-related research, or a with a Canadian non-governmental organization, to provide hands-on, practical experience with environmental policy or issues of sustainable development.