

# MASTERS IN ENVIRONMENTAL AND SOCIAL CHANGE (MESC)

June 9, 2021

**Graduate Program Committee Co-Chairs:** R. Bullock and N. Casson

**Professors:** D. Blair, E. Cloutis, A. Diduck, J. Distasio, D. Kumaragamage, J. Tardif, R. Westwood;

**Associate Professors:** J. Binyamin, B. Buhay, R. Bullock, N. Casson, M. Dyce, P. Fitzpatrick, I. Mauro, C. Storie, J. Storie, G. Sylvestre, M. Vachon; **Adjunct Professor:** S. Indraratne

## DEGREES/PROGRAMS OFFERED

Master of Science (MSc)

Master of Environment (MEnv)

Master of Arts (MA)

The Master of Environmental and Social Change (MESC) is an interdisciplinary program focusing on training related to human roles in the environment. It offers a unique graduate training experience, blending applied analytical techniques, critical thinking, and best practices for sustainable ecosystems, policies and societies. Students specialize in and work at the nexus of three related fields: human geography, environmental sciences, and environmental studies, where they develop customized knowledge, skills, and professional abilities needed to address complex human-environmental issues. Designed for options, the program offers (1) specialized training opportunities that build problem-focussed and disciplinary knowledge and research skills, (2) interdisciplinary curriculum to develop common contextual knowledge and professional competencies that are essential for addressing current and future complex problem settings, and (3) a cohesive scholarly community that encourages students to work together and provides access to diverse faculty and areas of specialization. Research in this program includes asking fundamental questions about human-environmental linkages and dynamics, as well as applied work designed to solve existing local, regional and global problems.

## Admission Requirement

Students must hold, or reasonably expect to hold by September, an undergraduate degree suited to their desired credential (MA, MEnv, MSc) with a minimum Cumulative Grade Point Average of 3.0 out of a possible 4.0. Examples of relevant undergraduate degrees may include Environmental Sciences or Studies; Geography; Planning; History; Natural Resource Management; or Indigenous Studies, or a degree from a related field)

English Requirement (if applicant's first language is not English): Minimum TOEFL score 550 (paper-based), 213 (computer-based), 86 (internet-based) or IELTS score 6.5. The test should have been taken within two years of the date a completed application is filed. For more information, please read: <https://www.uwinnipeg.ca/future-student/docs/English-language-requirements-policy.pdf>

## REQUIREMENTS FOR AN M.SC. IN ENVIRONMENTAL AND SOCIAL CHANGE

Students enrol in the Masters program for a minimum of two years and take a minimum of 12 credit hours of courses. A major research project culminating in a thesis must be completed and successfully defended to graduate from the program. As a condition of admission, each student must have a supervisor who is a member of the Faculty of Graduate Studies at the University of Winnipeg and a member of Environmental Studies and Sciences, Geography, or a related department as approved on a case by case basis by the MESC Graduate Program Committee. Adjunct professors in the Environmental Studies and Sciences or Geography at the University of Winnipeg who are also eligible members of the Faculty of Graduate Studies may supervise with approval from the GPC. The supervisor provides direction to the student on the program of study, directs research, and supervises thesis work. The student must also have a thesis committee, which is comprised of the thesis supervisor and normally two other faculty members to help guide and review thesis research.

Course work includes two elements: required course work in Interdisciplinary Research Foundations and Interdisciplinary Seminars in Environmental and Social Change, plus elective courses chosen from MESC natural science courses. With permission from the GPC Chair, students may also bring forward alternative natural science courses offered through other UW programs. Students are required to obtain a minimum average GPA of 3.0 and no grade less than B in all required coursework.

## **Courses:**

Students must complete a minimum combination of required courses and elective courses. In exceptional circumstances, the Graduate Program Committee and thesis supervisor may assign more than the minimum 12 credit hours for a student's degree program, normally at the time of program admission. With the exception of core courses, and at the discretion of Graduate Program Chair, students may be allowed to substitute courses taken from a different institution.

### Required:

- GESC 7101 - Graduate Thesis (no credits, continuing throughout registration period)
- GESC 7102 - Interdisciplinary Seminars in Environmental and Social Change (3 credits)
- GESC 7103 - Interdisciplinary Research Foundations (3 credits)

### Electives:

Minimum of 6 credits from the list of MESC natural science courses (or equivalent)

- GESC 7611 - Environmental Science & Physical Geography: Approaches & Methods
- GESC 7621 - Topics in Environmental Science & Physical Geography
- GESC 7632 - Directed Studies in Environmental Science & Physical Geography

## **REQUIREMENTS FOR AN M.ENV. IN ENVIRONMENTAL AND SOCIAL CHANGE**

Students enrol in the Masters program for a minimum of two years and take a minimum of 12 credit hours of courses. A major research project culminating in a thesis must be completed and successfully defended to graduate from the program. As a condition of admission, each student must have a supervisor who is a member of the Faculty of Graduate Studies at the University of Winnipeg and a member of Environmental Studies and Sciences, Geography, or a related department as approved on a case by case basis by the MESC Graduate Program Committee. Adjunct professors in the Environmental Studies and Sciences or Geography at the University of Winnipeg who are also eligible members of the Faculty of Graduate Studies may supervise with approval from the GPC. The supervisor provides direction to the student on the program of study, directs research, and supervises thesis work. The student must also have a thesis committee, which is comprised of the thesis supervisor and normally two other faculty members to help guide and review thesis research.

Course work includes two elements: required course work in Interdisciplinary Research Foundations and Interdisciplinary Seminars in Environmental and Social Change, plus elective courses chosen from MESC natural science, social science and humanities courses. With permission from the GPC Chair, students may also bring forward alternative natural science, social science and humanities courses offered through other UW programs. Students are required to obtain a minimum average GPA of 3.0 and no grade less than B in all required coursework.

## **Courses:**

Students must complete a minimum combination of required courses and elective courses. In exceptional circumstances, the Graduate Program Committee and thesis supervisor may assign more than the minimum 12 credit hours for a student's degree program, normally at the time of program admission. With the exception of core courses, and at the discretion of Graduate Program Chair, students may be allowed to substitute courses taken from a different institution.

### Required:

- GESC 7101 - Graduate Thesis (continuing throughout registration period)
- GESC 7102 - Interdisciplinary Seminars in Environmental and Social Change (3 credits)
- GESC 7103 - Interdisciplinary Research Foundations (3 credits)

### Electives:

Minimum of 3 credits from the list of natural science courses (or equivalent)

- GESC 7611 - Environmental Science & Physical Geography: Approaches & Methods
- GESC 7621 - Topics in Environmental Science & Physical Geography
- GESC 7632 - Directed Studies in Environmental Science & Physical Geography

Minimum of 3 credits from the list of social science and humanities courses (or equivalent)

- GESC 7511 - Environmental Studies & Human Geography: Approaches & Methods
- GESC 7521 - Topics in Environmental Studies & Human Geography
- GESC 7532 - Directed Studies in Environmental Studies & Human Geography

## REQUIREMENTS FOR AN M.A. IN ENVIRONMENTAL AND SOCIAL CHANGE

Students enrol in the Masters program for a minimum of two years and take a minimum of 12 credit hours of courses. A major research project culminating in a thesis must be completed and successfully defended to graduate from the program. As a condition of admission, each student must have a supervisor who is a member of the Faculty of Graduate Studies at the University of Winnipeg and a member of Environmental Studies and Sciences, Geography, or a related department as approved on a case by case basis by the MESC Graduate Program Committee. Adjunct professors in the Environmental Studies and Sciences or Geography at the University of Winnipeg who are also eligible members of the Faculty of Graduate Studies may supervise with approval from the GPC. The supervisor provides direction to the student on the program of study, directs research, and supervises thesis work. The student must also have a thesis committee, which is comprised of the thesis supervisor and normally two other faculty members to help guide and review thesis research.

Course work includes two elements: required course work in Interdisciplinary Research Foundations and Interdisciplinary Seminars in Environmental and Social Change, plus elective courses chosen from MESC social science and humanities courses. With permission from the GPC Chair, students may also bring forward alternative social science and humanities courses offered through other UW programs. Students are required to obtain a minimum average GPA of 3.0 and no grade less than B in all required coursework.

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Students must complete a minimum combination of required courses and elective courses. In exceptional circumstances, the Graduate Program Committee and thesis supervisor may assign more than the minimum 12 credit hours for a student's degree program, normally at the time of program admission. With the exception of core courses, and at the discretion of Graduate Program Chair, students may be allowed to substitute courses taken from a different institution.

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- GESC 7101 - Graduate Thesis (continuing throughout registration period)
- GESC 7102 - Interdisciplinary Seminars in Environmental and Social Change (3 credits)
- GESC 7103 - Interdisciplinary Research Foundations (3 credits)

#### Electives:

Minimum of 6 credits from the list of social science and humanities courses (or equivalent)

- GESC 7511 - Environmental Studies & Human Geography: Approaches & Methods
- GESC 7521 - Topics in Environmental Studies & Human Geography
- GESC 7532 - Directed Studies in Environmental Studies & Human Geography

#### Other relevant courses taught by MESC faculty:

- GDP 7750 Managing for Environmental Sustainability
- GBIO 7202 Geographic Information Analysis

Students are encouraged to explore additional courses from other graduate programs at The University of Winnipeg or other institutions, where necessary, to fulfill their degree requirements.

## COURSE DESCRIPTIONS

### Core courses:

**GESC 7101 GRADUATE THESIS (PV)** To participate in the Masters in Environmental and Social Change program students must register for this course in each year of their program. Ongoing mandatory registration in the thesis course indicates students are undertaking a thesis project under the supervision and guidance of a faculty member. The thesis project must include actual research,

experimental and/or theoretical, that is beyond a literature review or analysis of existing data, in order to make an original theoretical, methodological or empirical contribution to knowledge. Permission to enroll is dependent on the availability and approval of a supervisor in the student's field of interest and approval of the MESC Graduate Program Committee Chair(s) and the Faculty of Graduate Studies at The University of Winnipeg.

**PREREQUISITES:** consent of the MESC program chair.

**GESC 7102 (3) INTERDISCIPLINARY SEMINARS IN ENVIRONMENTAL AND SOCIAL CHANGE (LeV)**

Students are informed on the current state of research, knowledge and practice focused on environmental and social change. Through student- and faculty-led discussions, seminars presented by upper year graduate students, postdoctoral fellows, faculty, and invited speakers and a series of oral presentations, students investigate a breadth of concepts and methods used in the fields of environmental studies and sciences and human and physical geography. Students also produce a major paper that supports their thesis project.

**PREREQUISITES:** consent of the MESC program chair.

**COREQUISITES:** To be taken concurrently with GESC 7103 Research Foundations.

**GENV 7103 (3) INTERDISCIPLINARY RESEARCH FOUNDATIONS (LeV)**

This course investigates environmental and geographical research from an interdisciplinary perspective. This course examines the history and philosophy of research; research, society, and policy; interdisciplinary research methods; professional development for team-based collaborative research; research ethics, types of research designs and proposal development. The two main deliverables are: 1) an interdisciplinary team project focused on an environmental/geographical challenge/opportunity that applies and/or tests interdisciplinary problem-solving approaches, concepts, theory and/or methods, and 2) an individual thesis research proposal that would be suitable for submission to an external granting agency.

**PREREQUISITES:** consent of the MESC program chair.

**COREQUISITES:** To be taken concurrently with GESC 7102 Research Seminars.

**Elective courses:**

**GESC 7511 (3) ENVIRONMENTAL STUDIES AND HUMAN GEOGRAPHY: APPROACHES AND METHODS (Le3)**

This course supports graduate students to develop advanced understanding of specialized approaches, applications and methods for Human Geography and Environmental Studies research. Students engage significant literature, major questions in theory and related method, and practical tools related to the course subject. Course content varies from year to year.

**PREREQUISITES:** Non-MESC students require permission of the Instructor

**GESC 7521 (3) TOPICS IN ENVIRONMENTAL STUDIES AND HUMAN GEOGRAPHY (Le3)**

This course introduces graduate students to a topical area within Human Geography and Environmental Studies. The focus may be defined by a thematic area of study, region, period, or complementary domains of study. Students become familiar with the major published literature, questions and debates, theoretical considerations, practical applications, and current directions within the field.

**PREREQUISITES:** Non-MESC students require permission of the Instructor.

**GESC 7531 (3) DIRECTED STUDIES IN ENVIRONMENTAL STUDIES AND HUMAN GEOGRAPHY (DV)**

This course allows the student to undertake an in-depth study on a specific topic area, theme, or research question of interest to fill in gaps in their knowledge, understand concepts, and sharpen their research skills. This is achieved through one or a combination of activities including, but not limited to, a critical review of literature, meta-analysis, developing/ testing methods, and conducting an independent directed research. The directed studies course may be in the general topic area of the student's thesis but should be distinct from their given research subject.

**PREREQUISITES:** Consent of the MESC program chair and permission of the Instructor.

**GESC 7611 (3) ENVIRONMENTAL SCIENCE AND PHYSICAL GEOGRAPHY: APPROACHES AND METHODS (Le3)**

This course trains graduate students in a specialized research approach, technique or unique application utilized within physical geography and environmental sciences. Examples of methods may include: specialized lab or field techniques; statistical or data analysis methods; geospatial analysis; mathematical or computer-based modelling approaches; or other methods used in the study of physical geography and environmental sciences. The course content varies from year to year.

**PREREQUISITES:** Non-MESC students require permission of the Instructor.

**GESC 7621 (3) TOPICS IN ENVIRONMENTAL SCIENCE AND PHYSICAL GEOGRAPHY (Le3)**

This course introduces graduate students to a topical area within Physical Geography and Environmental Science. Situated within the broader context of environmental and social change, the focus may be defined by a thematic area of study, geographic focus, or applications of research to current environmental issues, for example. Students become familiar with the major published literature, questions and debates, theoretical considerations, practical applications, and current directions within the field.

**PREREQUISITES:** Non-MESC students require permission of the Instructor.

**GESC 7631 (3) DIRECTED STUDIES IN ENVIRONMENTAL SCIENCE AND PHYSICAL GEOGRAPHY (DV)**

This course allows the student to undertake a study on a specific topic area, theme, or research question of interest to fill in gaps in their knowledge, understand concepts, and sharpen their research skills. This is achieved through one or a combination of activities including, but not limited to, a critical review of literature, meta-analysis, developing/ testing methods, and conducting independent directed research. The directed studies course may be in the general topic area of the student's thesis but should be distinct from their given research subject.

**PREREQUISITES:** Consent of the MESC program chair and permission of the Instructor.

## **Other relevant courses taught by MES**

### **Faculty:**

**GDP 7750 (3) MANAGING FOR ENVIRONMENTAL SUSTAINABILITY (S3)** This course considers geographic and environmental approaches to sustainable staples-based development, particularly as they apply to water, energy, and mining. Discussion begins by outlining change, complexity, uncertainty and conflicts associated with primary and derived resources, including those contributing to climate change. Important technological innovations and policy developments designed to address these challenges are contemplated. The roles and contributions of indigenous knowledge are

discussed within the context of corporate social responsibility policies, public-private initiatives, community-based resource management, adaptive management, and social learning through public participation.

**PREREQUISITES:** Permission of the instructor.

**GBIO 7202 (3) GEOGRAPHIC INFORMATION ANALYSIS (Le3)** This course deals with advanced theory and applications within Geographic Information Analysis (G.I.A.) with a specific focus on spatial statistics and spatial analysis. Laboratory instruction provides the students with enhanced skills through exposure to the higher-level functions of industry standard GIS software.

**PREREQUISITES:** Permission of the instructor.