

# GEOGRAPHY

The Department of Geography, Environment and Geomatics offers programs of study leading to the degrees of MA, MSc and PhD in Geography in the following fields:

- Environmental Management and Governance
- Biophysical Systems and Processes
- Socio-Economic Spaces and Change

Details regarding faculty, areas of research, and current research opportunities are provided on the Department's website (<https://geg.uoguelph.ca/>).

## Administrative Staff

### Chair

Robin Roth (118a Hutt, Ext. 53525)  
rroth01@uoguelph.ca

### Graduate Program Coordinator

Kate Parizeau (343 Hutt)  
ggradcrd@uoguelph.ca

### Graduate Program Assistant

Iman Shivji (139 MINS)  
geograd@uoguelph.ca

## Graduate Faculty

*This list may include Regular Graduate Faculty, Associated Graduate Faculty and/or Graduate Faculty from other universities.*

### Aaron Berg

B.Sc., M.Sc. Lethbridge, M.Sc. UT Austin, PhD UC Irvine - Professor  
Graduate Faculty

### Benjamin E. Bradshaw

BA Trent, PhD Guelph - Associate Professor and Assistant Vice President (Graduate Studies)  
Graduate Faculty

### Jaclyn Cockburn

B.Sc., M.Sc., PhD Queen's - Professor  
Graduate Faculty

### Ben DeVries

B.Sc. Toronto, M.Sc., PhD Wageningen - Associate Professor  
Graduate Faculty

### Sara Edge

B.Sc, McMaster. MES, Waterloo, PhD McMaster - Associate Professor  
Graduate Faculty

### Evan Fraser

BA, M.Sc. Toronto, PhD British Columbia - Professor  
Graduate Faculty

### Ze'ev Gedalof

BA, M.Sc. Victoria, PhD Washington - Associate Professor  
Graduate Faculty

### Noella Gray

B.Sc. McGill, MA Western, PhD Duke - Associate Professor  
Graduate Faculty

### Roberta Hawkins

B.Sc. Queen's, MES York, PhD Clark - Associate Professor  
Graduate Faculty

### Uwafiokun Idemudia

B.Sc. Ilorin, MA Westminster, PhD Lancaster - Professor and Dean,  
College of Social and Applied Human Science  
Graduate Faculty

### Diana Lewis

BA McMaster, MREM, PhD Dalhousie - Assistant Professor  
Graduate Faculty

### John B. Lindsay

B.Sc. Nipissing, MS, PhD Western - Professor  
Graduate Faculty

### Faisal Moola

B.Sc. Toronto, M.Sc. Lakehead, PhD Dalhousie - Associate Professor  
Graduate Faculty

### Eric Nost

BA Grinnell, MA Kentucky, PhD Wisconsin-Madison - Associate Professor  
Graduate Faculty

### Kate Parizeau

B.A.Sc. McMaster, M.Sc., PhD Toronto - Associate Professor  
Graduate Faculty

### Robin Roth

BA Victoria, PhD Clark - Professor and Chair  
Graduate Faculty

### Jennifer Silver

BA Mount Allison, MA Western, PhD Simon Fraser - Professor  
Graduate Faculty

### Anna Stanley

BA, MA, PhD Guelph - Adjunct Faculty, Geography, Environment and Geomatics, University of Guelph  
Associated Graduate Faculty

### Paul Villard

B.Sc., M.Sc. Guelph, PhD Auckland - Director/Senior Geomorphologist,  
GEO Morhpix Ltd.  
Associated Graduate Faculty

### Wanhong Yang

B.Sc., Hubei, M.Sc. Chinese Academy of Sciences, PhD Illinois - Professor  
Graduate Faculty

## MA Program

### Admission Requirements

To be considered for admission, applicants should meet the minimum requirements of a four-year honours degree with a 75% ('B') average during the final two years of study. Applicants must submit a statement of their research interests with their application. It is essential that applicants contact potential advisors in the department prior to submission of an application. Students are admitted in September. Program offices should be consulted for admission deadlines.

### Program Requirements

The MA program is distinctive in that it emphasizes interrelationships among biophysical and human systems. Scales of inquiry range from

the local to the global, and students conduct research in Canada as well as internationally. In addition, the department offers a Master of Conservation Leadership (<https://calendar.uoguelph.ca/graduate-calendar/graduate-programs/conservation-leadership/>).

Students enrol in one of two study options:

1. thesis, or
2. course work and major research project.

### Thesis

Students taking the thesis option are required to complete an acceptable thesis and the Research Methods courses (GEOG\*6090 Seminar in Geographic Thought and GEOG\*6091 Geographical Research Design). In addition, students must take three courses (1.5 credits), from the Department of Geography.

Students must complete two courses identified as social science courses.

### Course Work and Major Research Project (MRP)

Students taking the course work option must complete the Research Methods courses (GEOG\*6090 Seminar in Geographic Thought and GEOG\*6091 Geographical Research Design) and the Research Project course (GEOG\*6180 Research Project in Geography). In addition, five other courses (2.5 credits) are required, at least four of which must be from the Department of Geography. Students must complete three courses identified as social science courses.

## MSc Program

### Admission Requirements

To be considered for admission, applicants should meet the minimum requirements of a four-year honours degree with a 75% ('B') average during the final two years of study. Applicants must submit a statement of their research interests with their application. It is essential that applicants contact potential advisors in the department prior to submission of an application. Students are admitted in September. Program offices should be consulted for admission deadlines.

### Program Requirements

The MSc program is distinctive in that it emphasizes interrelationships among biophysical and human systems. Scales of inquiry range from the local to the global, and students conduct research in Canada as well as internationally. In addition, the department offers a Master of Conservation Leadership (<https://calendar.uoguelph.ca/graduate-calendar/graduate-programs/conservation-leadership/>).

Students enrol in one of two study options:

1. thesis, or
2. course work and major research project.

### Thesis

Students taking the thesis option are required to complete an acceptable thesis and the Research Methods courses (GEOG\*6090 Seminar in Geographic Thought and GEOG\*6091 Geographical Research Design). In addition, students must take three courses (1.5 credits), from the Department of Geography.

Students must complete two courses identified as biophysical science courses.

### Course Work and Major Research Project (MRP)

Students taking the course work option must complete the Research Methods courses (GEOG\*6090 Seminar in Geographic Thought and GEOG\*6091 Geographical Research Design) and the Research Project course (GEOG\*6180 Research Project in Geography). In addition, five other courses (2.5 credits) are required, at least four of which must be from the Department of Geography. Students must complete three courses identified as biophysical science courses.

## PhD Program

### Admission Requirements

Applicants for the PhD program should have a recognized master's degree with an 80% ('A-') average in their postgraduate studies. Applicants must submit a statement of their research interests including some evidence of experience in their chosen research area. It is essential that applicants contact potential advisors in the department prior to submission of an application. Students are admitted in September. Program offices should be consulted for admission deadlines.

### Program Requirements

Doctoral students conduct research relating to these areas at various geographic scales, from the local to the global.

All students in the PhD program are required to complete the Geographic Scholarship and Research course (GEOG\*6100 Geographic Scholarship and Research) during the first two semesters of study. The advisory committee may prescribe additional courses to help the student prepare for the qualifying examination and thesis research. All students in the PhD program must complete a qualifying examination and submit a satisfactory research proposal by the end of the fourth semester of study.

The qualifying examination has written and oral components and evaluates the student's knowledge of the broader scholarly field as well as the specific theoretical and empirical content of the intended research area. Submission and defence of an acceptable thesis on an approved topic completes the requirements of the PhD.

## Collaborative Specializations

### International Development Studies

The Department of Geography participates in the MA, MSc and PhD collaborative specialization in International Development Studies (IDS). Consult the International Development Studies (<https://calendar.uoguelph.ca/graduate-calendar/collaborative-specializations/international-development-studies/>) listing for a detailed description of the requirements of the collaborative specialization.

### One Health

The Department of Geography participates in the collaborative specialization in One Health. Master's and Doctoral students wishing to undertake thesis research or their major research paper/project with an emphasis on one health are eligible to apply to register concurrently in Geography and the collaborative specialization. Students should consult the One Health (<https://calendar.uoguelph.ca/graduate-calendar/collaborative-specializations/one-health/>) listing for more information.

## Courses

### **GEOG\*6060 Special Topics in Geography Summer, Fall, and Winter [0.50]**

A course on some specific topic not covered by the regular graduate courses for which there are both available faculty and sufficient interest among students.

**Restriction(s):** Instructor consent required.

**Department(s):** Department of Geography

**Location(s):** Guelph

### **GEOG\*6090 Seminar in Geographic Thought Fall Only [0.50]**

A review and discussion of philosophies of importance to research in geography. The students develop, write and present a research context paper based on their thesis or research project topic.

**Department(s):** Department of Geography

**Location(s):** Guelph

### **GEOG\*6091 Geographical Research Design Winter Only [0.50]**

A review of research methods in geography. The development and presentation of a research proposal for the thesis or research project.

**Prerequisite(s):** GEOG\*6090

**Department(s):** Department of Geography

**Location(s):** Guelph

### **GEOG\*6100 Geographic Scholarship and Research Fall and Winter Reg Required [0.50]**

A review of geographic scholarship including conceptual, theoretical and methodological issues in resource assessment, biophysical resources and rural socio-economic resources.

**Offering(s):** The course extends over two semesters (Fall and Winter).

**Department(s):** Department of Geography

**Location(s):** Guelph

### **GEOG\*6180 Research Project in Geography Summer, Fall, and Winter [1.00]**

The preparation and presentation of a report on the research project approved in GEOG\*6091.

**Restriction(s):** Instructor consent required.

**Department(s):** Department of Geography

**Location(s):** Guelph

### **GEOG\*6281 Environmental Management and Governance Fall Only [0.50]**

Analysis and evaluation of environmental management and governance using geographical approaches. Emphasis is on socio-economic theories, concepts and methods which offer a more comprehensive and integrative basis for understanding environmental decisions.

**Restriction(s):** Restricted to Geography students.

**Department(s):** Department of Geography

**Location(s):** Guelph

### **GEOG\*6330 Biotic Processes and Biophysical Systems Unspecified [0.50]**

Investigation of biotic processes influencing the composition, structure and distribution of plant and animal communities and of approaches to biophysical systems analysis, focusing on environmental system interaction at the landscape scale.

**Offering(s):** Occasional years

**Department(s):** Department of Geography

**Location(s):** Guelph

### **GEOG\*6340 Human-Environment Relations Winter Only [0.50]**

A critical review of philosophies, concepts and analytical methods for analysis and management of systems involving the interaction of environmental processes and human spatial activity.

**Department(s):** Department of Geography

**Location(s):** Guelph

### **GEOG\*6420 Remote Sensing of the Environment Winter Only [0.50]**

Students will gain hands-on experience processing multispectral, thermal, and radar images and LiDAR 3D point clouds using advanced analytical software to study environmental processes and systems. In particular, students will learn about image transformations and techniques used in image classification and change detection applications, including supervised and unsupervised machine learning based methods. Offered in conjunction with GEOG\*3420. Extra work is required for graduate students. [Department(s): Department of Geography Environment and Geomatics]

**Restriction(s):** Restricted to MA, MSc and PhD Geography and Master of Data Science students. Credit may be obtained for only one of GEOG\*6420 or GEOG\*3420.

**Location(s):** Guelph

### **GEOG\*6450 Development Geography Unspecified [0.50]**

Group identities at various scales in relation to concepts of territory and territoriality, and their changing impact on the world's political map.

**Offering(s):** Annually

**Department(s):** Department of Geography

**Location(s):** Guelph

### **GEOG\*6480 Advanced GIS and Spatial Analysis Fall and Winter [0.50]**

This course focuses on the use of raster and vector-based geographic information systems to analyze spatial data. Topics include overlay, spatial interpolation, multi-criteria evaluation, least cost pathway determination, digital elevation models and surface analysis, and network analysis. This course requires familiarity with numerical methods and computer operations. Offered in conjunction with GEOG\*3480. Extra work is required for graduate students.

**Restriction(s):** Restricted to MA, MSc and PhD Geography and Master of Data Science students. Credit may be obtained for only one of GEOG\*6480 or GEOG\*3480.

**Department(s):** Department of Geography Environment and Geomatics

**Location(s):** Guelph

### **GEOG\*6540 Field Methods in Physical Geography Fall Only [0.50]**

This course will focus on approaches in measurements of the biophysical environment. Depending on the expertise of course instructor measurement techniques may involve soil, water, atmospheric or ecological systems. The course will emphasize field techniques, elements of sample design and preliminary data analysis. Students will be required to perform preliminary data collection, analysis and communication of results as part of the course requirements.

**Restriction(s):** Graduate students in Geography, Environment and Geomatics

**Department(s):** Department of Geography Environment and Geomatics

**Location(s):** Guelph

### **GEOG\*6550 Environmental Modelling Winter Only [0.50]**

This course aims to provide students with an understanding of the processes and techniques involved in environmental modeling practice and will focus on the power and limitations of existing models.

**Restriction(s):** Instructor consent required.

**Department(s):** Department of Geography

**Location(s):** Guelph

**GEOG\*6610 Global Hydrology Fall Only [0.50]**

An examination of global environmental hydrology including precipitation, evaporation, subsurface water and runoff. Physical processes, measurement, analytical techniques and modelling strategies will be considered in the context of global change.

**Department(s):** Department of Geography

**Location(s):** Guelph