

# MASTER OF SCIENCE GEOGRAPHY

The Department of Geography, Environment and Geomatics conducts research and teaching on the interrelationships between human society and the physical world. Students are introduced to the full spectrum of subfields, including human and physical geography, environmental studies, and geomatics. Specific departmental strengths include polar environments, urban geography, climate change, and GIS and remote sensing.

In addition to its undergraduate programs, the department offers thesis-based two-year Master of Arts (MA) and Master of Science (MSc) programs, as well as a course-based interdisciplinary one-year Master concentration in The Anthropocene (MSc), and a PhD in Geography. Through the MA and MSc programs, students can also participate in the collaborative program in Science, Society and Policy. The programs are governed by the general regulations in effect for graduate studies.

## Admission Requirements

For the most accurate and up to date information on application deadlines, language tests and other admission requirements, please visit the specific requirements (<https://www.uottawa.ca/graduate-studies/programs-admission/apply/specific-requirements/>) webpage.

To be admissible to the master's program, the student must hold an Honours Bachelor in Geography or in Environmental Studies, or in a related discipline with an academic record indicating at least (B+) or the equivalent. Candidates whose bachelor's degree with honours (or the equivalent) is in an area other than geography may be admitted for a qualifying period, during which they must take selected courses required in the department's BA with honours program.

## Additional Coursework

The Admissions Committee may, depending on the candidates' background, require them to successfully complete additional courses, including language courses, beyond the basic MSc degree requirements.

## Additional Information

For additional information, refer to the Department of Geography ([http://www.geography.uottawa.ca/PDF/Form\\_geography.pdf](http://www.geography.uottawa.ca/PDF/Form_geography.pdf))'s website.

## Program Requirements

Requirements for this program have been modified. Please consult the 2025-2026 calendars (<http://catalogue.uottawa.ca/en/archives/>) for the previous requirements.

## Master with Thesis

### Compulsory Courses:

GEG 5000	Foundations of Graduate Study in Geography	3 Units
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### Optional Courses

6 course units from: <sup>1</sup>	6 Units
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ENV 5101	The Anthropocene
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GEG 5310	Selected Topics in Physical Geography
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GEG 5311	Environmental Change in Cold Regions
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GEG 5707	Milieux nordiques
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GEG 6101	Data Analysis and Modelling
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GEG 6102	Practical GIS for Graduate Studies
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GEG 6103	Spatial Data Science
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GEG 7910	Directed Readings
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### Thesis Project

GEG 7996	Preparation and Presentation of the MSc Thesis Project	3 Units
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### Thesis

THM 7999	Master's Thesis
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### Note(s)

<sup>1</sup> Three course units may be replaced by three other units approved by the Department of Geography. The following course, GEO 5143, is recommended by the Department.

## Fast-Track from Master's to PhD

Students enrolled in the MSc program may be allowed to transfer to the PhD program without being required to write a master's thesis. For additional information, please consult the "Admission Requirements" section of the PhD program.

## Duration of Program

Students are expected to complete all requirements within two years. The thesis must be submitted within four years of the date of initial enrollment in the program.

## Minimum Standards

The passing grade in all courses is C+. A student who has incurred two failures is withdrawn from the program.

## Master of Science with a Concentration in Anthropocene with Coursework

### Compulsory Courses

ENV 5101	The Anthropocene	3 Units
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GEG 5000	Foundations of Graduate Study in Geography	3 Units
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GEG 60001	Phipps-Langlois Seminars (1/2)
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GEG 60002	Phipps-Langlois Seminars (2/2)	3 Units
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### Optional Courses

6 course units from: <sup>1</sup>	6 Units
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GEG 5105	Selected Topics in Human Geography
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GEG 5109	Place and Social Transformations
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GEG 5310	Selected Topics in Physical Geography
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GEG 5311	Environmental Change in Cold Regions
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GEG 6101	Data Analysis and Modelling
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GEG 6102	Practical GIS for Graduate Studies
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GEG 6103	Spatial Data Science
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3 course units from: <sup>1</sup>	3 Units
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ANT 6102	Globalization and Capitalist Imaginaries
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ANT 6104	Indigeneities
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ANT 6502	Mondialisation et imaginaires capitalistes
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ANT 6504	Autochtonies
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ANT 6122	Environmental Anthropology
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ANT 6522	Anthropologie de l'environnement
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EDU 6106	Science, Technology, Society and Environment
EDU 6506	Sciences technologies, société et environnement
DVM 6102	Livelihoods, Resources and Sustainability
DVM 6502	Modes de vie, ressources et durabilité
DVM 6112	Special Topics in Environment, Natural Resources and Sustainability
DVM 6512	Thèmes choisis en environnement, ressources naturelles et durabilité

#### Experiential and Research Courses:

6 course units from: 6 Units

GEG 6001	Internship I
GEG 6002	Internship II

Note(s)

<sup>1</sup> Subject to departmental approval, students may replace 3 course units from the optional courses listed above with a course at the 4XXX level.

### Duration of Program

Students are expected to complete all requirements within 12 months.

## Master of Science with a Concentration in Anthropocene with Research Paper

#### Compulsory Courses

ENV 5101	The Anthropocene	3 Units
GEG 5000	Foundations of Graduate Study in Geography	3 Units
GEG 60001	Phipps-Langlois Seminars (1/2)	
GEG 60002	Phipps-Langlois Seminars (2/2)	3 Units

#### Optional Courses

6 course units from: <sup>1</sup> 6 Units

GEG 5105	Selected Topics in Human Geography
GEG 5109	Place and Social Transformations
GEG 5310	Selected Topics in Physical Geography
GEG 5311	Environmental Change in Cold Regions
GEG 6101	Data Analysis and Modelling
GEG 6102	Practical GIS for Graduate Studies
GEG 6103	Spatial Data Science

3 course units from: <sup>1</sup> 3 Units

ANT 6102	Globalization and Capitalist Imaginaries
ANT 6104	Indigeneities
ANT 6122	Environmental Anthropology
ANT 6502	Mondialisation et imaginaires capitalistes
ANT 6504	Autochtonies
ANT 6522	Anthropologie de l'environnement
EDU 6106	Science, Technology, Society and Environment
EDU 6506	Sciences technologies, société et environnement
DVM 6102	Livelihoods, Resources and Sustainability
DVM 6112	Special Topics in Environment, Natural Resources and Sustainability
DVM 6502	Modes de vie, ressources et durabilité

DVM 6512 Thèmes choisis en environnement, ressources naturelles et durabilité

#### Experiential and Research Courses:

MRP 6999 Major Research Paper

Note(s)

<sup>1</sup> Subject to departmental approval, students may replace 3 course units from the optional courses listed above with a course at the 4XXX level.

### Duration of Program

Students are expected to complete all requirements within 12 months.

### Research

#### Research at the University of Ottawa

Located in the heart of Canada's capital, a few steps away from Parliament Hill, the University of Ottawa ranks among Canada's top 10 research universities. Our research is founded on excellence, relevance and impact and is conducted in a spirit of equity, diversity and inclusion.

Our research community thrives in four strategic areas:

- Creating a sustainable environment
- Advancing just societies
- Shaping the digital world
- Enabling lifelong health and wellness

From advancing healthcare solutions to tackling global challenges like climate change, the University of Ottawa's researchers are at the forefront of innovation, making significant contributions to society and beyond.

#### Research at the Faculty of Arts

The Faculty of Arts is proud of the state of the art research conducted by its professors. In the spirit of showcasing its research to the university community as well as to the general public, the Faculty has created three activities: Dean's Lecture Series, Treasures of the Library, and Excellence Lectures.

#### Facilities, Research Centres and Institutes at the Faculty of Arts

Centre de recherche en civilisation canadienne-française (<http://arts.uottawa.ca/crcf/>), Institute of Canadian and Aboriginal Studies (<http://arts.uottawa.ca/canada/en/>), Institute for Science, Society and Policy (<http://issp.uottawa.ca/en/>), Official Languages and Bilingualism Institute (OLBI) (<http://olbi.uottawa.ca/>) and Morisset Library (<http://biblio.uottawa.ca/en/morisset-library/>).

For more information, refer to the list of faculty members and their research fields on Uniweb (<https://uniweb.uottawa.ca/#!arts/themes>).

### Courses

Courses with 51XX and 55XX codes are reserved for students enrolled in the MA or PhD programs.

Courses with 53XX and 57XX codes are reserved for students enrolled in the MSc or PhD programs.

Courses at the 6000-level are available for all graduate students in geography.

Courses at the 7000-level are reserved for students enrolled in the MA and MSc programs.

Courses at the 8000- or 9000-levels are reserved for students enrolled in the PhD program.

### **GEG 5105 Selected Topics in Human Geography (3 units)**

In-depth examination of a question or topic linked to new trends or research areas in human geography.

**Course Component:** Seminar

### **GEG 5109 Place and Social Transformations (3 units)**

Interplay between social and spatial transformations and its implications for meanings and representations from global to local scales.

**Course Component:** Seminar

### **GEG 5310 Selected Topics in Physical Geography (3 units)**

**Course Component:** Seminar

### **GEG 5311 Environmental Change in Cold Regions (3 units)**

Dynamics of cold environments with particular emphasis on their sensitivity to climate variability and climate change, natural and anthropogenically induced.

**Course Component:** Seminar

### **GEG 5505 Thèmes choisis en géographie humaine (3 crédits)**

**Volet :** Séminaire

### **GEG 5510 Espaces et lieux entre société et culture (3 crédits)**

Espaces de référence, lieux d'appartenance et territoire dans le contexte des mutations sociales contemporaines et de la fragmentation des identités culturelles.

**Volet :** Séminaire

### **GEG 5707 Milieux nordiques (3 crédits)**

Les milieux glaciaires ou périglaciaires, anciens ou actuels. Approches géomorphologique, hydrologique et paléobotanique.

**Volet :** Séminaire

### **GEG 5710 Thèmes choisis en géographie physique (3 crédits)**

**Volet :** Séminaire

### **GEG 5970 Lectures dirigées / Directed Readings I (3 crédits / 3 units)**

**Volet / Course Component:** Recherche / Research

### **GEG 5973 Élaboration du projet de thèse (3 crédits / 3 units)**

**Volet / Course Component:** Recherche / Research

### **GEG 6000 Phipps-Langlois Seminars (3 crédits / 3 units)**

Phipps-Langlois seminars of 45- to 60-minute by graduate students, professors, or other invited speakers

**Volet / Course Component:** Cours magistral / Lecture

### **GEG 60001 Séminaires Phipps-Langlois (1/2) / Phipps-Langlois Seminars (1/2)**

Séminaires Phipps-Langlois de 45 à 60 minutes par des étudiants diplômés, des professeurs ou d'autres conférenciers invités. / Phipps-Langlois seminars of 45- to 60-minute by graduate students, professors, or other invited speakers

**Volet / Course Component:** Cours magistral / Lecture

### **GEG 60002 Seminaires Phipps-Langlois (2/2) / Phipps-Langlois Seminars (2/2) (3 crédits / 3 units)**

Séminaires Phipps-Langlois de 45 à 60 minutes par des étudiants diplômés, des professeurs ou d'autres conférenciers invités. / Phipps-Langlois seminars of 45- to 60-minute by graduate students, professors, or other invited speakers

**Volet / Course Component:** Cours magistral / Lecture

### **GEG 6001 Stage I / Internship I (3 crédits / 3 units)**

Stage supervisé dans un organisme externe ou avec un professeur au sein du département de géographie, environnement et géomatique ou d'autres unités sur le campus. Les étudiants sont responsables de trouver leur propre stage. Durée de 100 heures de travail non-rénuméré avec une organisation, approuvé par le directeur du programme d'études supérieures et certifié par l'organisation qui accueille le stage. Noté S (Satisfaisant) ou NS (Non-satisfaisant). / Supervised Internship at an external agency or with a professor within the Department of Geography, Environment and Geomatics or other units on campus. Students are responsible for finding their own internship. 100 hours of volunteer work, approved by the graduate program director and certified by the organization hosting the internship. Grade: S (Satisfactory) / NS (Not Satisfactory).

**Volet / Course Component:** Stage / Work Term

### **GEG 6002 Stage II / Internship II (3 crédits / 3 units)**

Stage supervisé dans un organisme externe ou avec un professeur au sein du département de géographie, environnement et géomatique ou d'autres unités sur le campus. Les étudiants sont responsables de trouver leur propre stage. Durée de 100 heures de travail non-rénuméré avec une organisation, approuvé par le directeur du programme d'études supérieures et certifié par l'organisation qui accueille le stage. Noté S (Satisfaisant) ou NS (Non-satisfaisant). / Supervised Internship at an external agency or with a professor within the Department of Geography, Environment and Geomatics or other units on campus. Students are responsible for finding their own internship. 100 hours of volunteer work, approved by the graduate program director and certified by the organization hosting the internship. Grade: S (Satisfactory) / NS (Not Satisfactory).

**Volet / Course Component:** Stage / Work Term

### **GEG 6101 Data Analysis and Modelling (3 units)**

Techniques of analysis of empirical data: quantitative, semi-quantitative and qualitative. Multivariate and time-series data analysis.

**Course Component:** Seminar

### **GEG 6102 Practical GIS for Graduate Studies (3 units)**

Think you might want to use geographic information systems (GIS) in your thesis research? Are you fascinated by the potential of spatial data science to enhance your research? If you answered yes to either of those questions then this introductory level course is for you.

The course is specifically focused on the practical and pragmatic aspects of working with digital earth data including vector, raster and satellite imagery. A strong emphasis is given to horizontal coordinate systems, transformations, georeferencing, spatial data manipulation, geoprocessing, geocoding, and scripting for workflow automation and modeling. By the end of the course, you will be confident in using the concepts and capabilities of geographic information systems science, to work with real-world spatial data.

**Course Component:** Seminar

### **GEG 6103 Spatial Data Science (3 units)**

Spatial data science is useful in many fields, including big data, population health sciences, biological sciences, earth sciences, medicine, engineering and social sciences. In this course, you will learn how to manipulate, analyze and model spatial data. Sections of the course focus on stochastic simulation and Monte Carlo methods in point-pattern analysis, spatial autocorrelation and geostatistics. Practical applications utilize the open-source software and data science computing languages (e.g. R, Python), no previous experience required. At the end of this course, you will have a toolbox of spatial analytical skills and a solid understanding of their appropriate applications to real-world questions.

**Course Component:** Seminar

Also offered as GEG 4120.

### **GEG 6501 Analyse de données et modélisation (3 crédits)**

Modes de traitement appropriés à différents types de données empiriques : quantitatives, semi-quantitatives et qualitatives. Examen des méthodes d'analyse multivariées et temporelles.

**Volet :** Séminaire

### **GEG 6502 SIG pratique pour les études supérieures (3 crédits)**

Pensez-vous que vous voudrez peut-être utiliser des systèmes d'information géographique (SIG) dans votre recherche de thèse? Êtes-vous fasciné par le potentiel de la science des données spatiales pour améliorer votre recherche? Si vous avez répondu oui à l'une de ces questions, ce cours d'introduction est pour vous. Le cours est spécifiquement axé sur les aspects pratiques et pragmatiques du travail avec des données terrestres numériques, y compris des images vectorielles, matricielles et satellitaires. Un accent particulier est mis sur les systèmes de coordonnées horizontales, les transformations, le géoréférencement, la manipulation des données spatiales, le géotraitement, le géocodage et la création de scripts pour l'automatisation et la modélisation des flux de travail. À la fin du cours, vous serez confiant dans l'utilisation des concepts et des capacités de la science des systèmes d'information géographique pour travailler avec des données spatiales du monde réel.

**Volet :** Séminaire

### **GEG 6503 Science des données spatiales (3 crédits)**

La science des données spatiales est utile dans de nombreux domaines, notamment 'big data', les sciences de la santé de la population, les sciences biologiques, les sciences de la terre, la médecine, l'ingénierie et les sciences sociales. Dans ce cours, vous apprendrez à manipuler, analyser et modéliser des données spatiales. Les sections du cours se concentrent sur la simulation stochastique et les méthodes de Monte Carlo dans l'analyse des motifs de points, l'autocorrélation spatiale et la géostatistique. Les applications pratiques utilisent les logiciels et les langages informatique de la science des données à source ouverte (p.ex. R, Python), aucune expérience préalable requise. À la fin de ce cours, vous aurez une boîte à outils de compétences analytiques spatiales et une solide compréhension de leurs applications appropriées aux questions du monde réel sur les données spatiales.

**Volet :** Séminaire

Aussi offert sous la cote GEG 4520.

### **GEG 7906 Recherche dirigée / Directed Research (6 crédits / 6 units)**

Recherche dirigée pendant une session, évaluée par trois membres de la Faculté des études supérieures et postdoctorales. L'inscription à temps plein est obligatoire. La note donnée sera S (satisfaisant) ou NS (non satisfaisant). N.B. Inscription limitée aux étudiants désireux transférer de la maîtrise au doctorat. / One session of directed research, evaluated by three members of the Faculty of Graduate and Postdoctoral Studies. The student must be enrolled full-time for this session. The course will be graded S (satisfactory) / NS (Not satisfactory). NOTE: Restricted to students intending to transfer from master's to PhD.

**Volet / Course Component:** Recherche / Research

### **GEG 7910 Lectures dirigées / Directed Readings (3 crédits / 3 units)**

**Volet / Course Component:** Recherche / Research

Permission du Département est requise. / Permission of the Department is required.

### **GEG 7996 Élaboration et présentation du projet de thèse de maîtrise ès sciences / Preparation and Presentation of the MSc Thesis Project (3 crédits / 3 units)**

Le projet de recherche doit normalement s'inscrire dans un champ d'études reconnu par le CRSNG. / The research project must normally be in a research field recognized by NSERC.

**Volet / Course Component:** Recherche / Research

### **GEG 7998 Élaboration et présentation du projet de thèse de maîtrise ès arts / Preparation and Presentation of the M.A. Thesis Project (3 crédits / 3 units)**

Le projet de recherche doit normalement s'inscrire dans un champ d'études reconnu par le CRSHC. / The research project must normally be in a research field recognized by SSRHC.

**Volet / Course Component:** Recherche / Research

### **GEG 8900 Lectures dirigées / Directed Readings (3 crédits / 3 units)**

**Volet / Course Component:** Recherche / Research

Permission du Département est requise. / Permission of the Department is required.

### **GEG 9001 Élaboration du projet de thèse de doctorat / Preparation of Ph.D. Thesis Project (6 crédits / 6 units)**

**Volet / Course Component:** Recherche / Research

**GEG 9998 Examen de synthèse / Comprehensive Examination**

**Volet / Course Component:** Recherche / Research