

WELCOME

Geography is the study of space—the natural processes that mould it, the humans that occupy and interact with it, and the methods we use to investigate and understand it. This undergraduate handbook details the many programs of study available to you in geography, which include both BA and BSc degree options. These options reflect the highly diversified nature of geography and the varied career options you have with a degree in the discipline. This handbook highlights the teaching and research interests of our professors and the opportunities you have to become involved in research projects. TUGS, Toronto Undergraduate Geography Society, is our active student association that plays an important role in academic and student-life issues in the department. I would urge you to get involved in TUGS by attending their events or you might want to consider joining the TUGS executive committee. For up-to-date advice or information, I invite you to visit our website (geography.utoronto.ca) or stop in and see our Associate Chair, Undergraduate (Professor Robert Lewis until December 31, 2015, Professor Alana Boland from January 1, to June 2016), Undergraduate Counsellor (Benjamin Pottruff), or me, the Departmental Chair (Professor Virginia Maclaren) in the main departmental office (Sidney Smith Hall, Room 5047). You can also give us a call at 416-978-6455, or email our Undergraduate Counsellor (pottruff@geog.utoronto.ca) who would be pleased to help you with course planning, program advising and career options. Welcome to geography at the University of Toronto!

Virginia Maclaren, Chair, Department of Geography & Program in Planning

**University of Toronto
Department of Geography**

UNDERGRADUATE HANDBOOK 2015-2016

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1 Introduction

Geography is the study of the environments created on the earth's surface by nature and people. The physical and biological elements of these environments, as well as their economic and social structures, historical developments, spatial organizations, management and planning form the subject matter of Geography. Geography, therefore, relates closely to other fields in natural science, social science and the humanities, and geographers take courses in these related fields along with their geography courses. Students specializing in other subjects often select one or more geography courses to deepen their understanding of the resource base, culture and economy of those parts of the world in which they are interested.

The University of Toronto's Department of Geography is one of the oldest and largest geography departments in North America. Founded in 1935, the department offers Specialist, Major and Minor programs leading towards both BA and BSc degrees. Currently, there are close to 3000 undergraduate students enrolled in geography courses on the St. George campus.

2 A Message from the Toronto Undergraduate Geography Society

The Toronto Undergraduate Geography Society (TUGS) is the geography student union. If you are taking a geography course you are automatically a member of TUGS. Throughout the year TUGS organizes events, career days and seminars of interest to all of geography. We also represent geography students on the Arts and Science Student Union (ASSU) Council and on a number of committees in the geography department. In addition, we have an office with information on courses, lectures and events, as well as a file of old geography exams available for photocopying.

There are several ways you can get involved in TUGS. You can be a class rep, you can be a member of the executive, or you can just come out to one of our events during the year! TUGS is a great way to meet people, have fun and get more involved in the U of T community. We are here for you, but we need your participation to make this a successful year. You can email us at tugsexec@geog.utoronto.ca. Drop by our great office in the basement (level G) of Sidney Smith Hall (Room 611) and check us out!

3 Faculty Research Interests

Our faculty represent a diversified range of research interests. If you are interested in taking one of our independent research courses (GGR491Y1/GGR492H1/GGR497H1/GGR498H1/GGR499H1), carefully review the research interests of our faculty to determine who you would like to work with. All geography faculty members have their own web pages. For more information about their research and about the courses that they teach, please visit www.geography.utoronto.ca.

3.1 Faculty

Christian Abizaid, Assistant Professor, PhD, McGill University (2007)

Research Interests: Human-environment interactions; cultural/political ecology; peasant livelihoods in tropical forests; environmental conservation and development; environmental change; vulnerability and human responses to environmental change; land use and land cover change; traditional agriculture; agrobiodiversity; rural poverty; social network analysis; Latin America; Amazon & Mexico. I am currently working on two main projects in the Peruvian Amazon. The first project examines the prospects for economic livelihood within the context of rapid environmental change with a focus on river dynamics. The second project focuses on the determinants and implications of geographical location of rural settlements in the Peruvian Amazon as a new approach that promises to improve our understanding of geographical poverty traps and community-based conservation and development.

✉ christian.abizaid@utoronto.ca

Alana B. Boland, Associate Professor; PhD, University of Washington (2001)

My research focuses on environmental governance in urban China. I am particularly interested in understanding how the changing relationship between the economy and environment under market reforms has influenced the management of resources and governing of spaces. My current projects includes an analysis of state regulatory initiatives aimed at improving urban environmental conditions in contemporary China, and study of the economic-environment nexus in Chinese cities during the 1950s and 60s.

✉ boland@geog.utoronto.ca

Don Boyes, Senior Lecturer; PhD, University of Western Ontario (1999)

Don specializes in teaching the theory and application of geographic information systems (GIS) at the undergraduate and graduate level. He has a strong interest in the scholarship of teaching and pedagogical development, particularly through the use of technology. He is a recipient of the Faculty of Arts and Science Outstanding Teaching Award, the APUS-SAC Undergraduate Teaching Award, and multiple recipient of the Dean's Excellence Award.

✉ don.boyes@utoronto.ca

Jing M. Chen, Professor; PhD, Reading University, United Kingdom (1986)

Research interests include remote sensing and geographic information systems, carbon cycle, and hydrology. I am currently conducting research in deriving vegetation biophysical and physiological parameters using remote sensing techniques and in using these parameters in regional and global carbon and water cycle modeling. Air CO₂ data are also used to estimate the global carbon cycle through atmospheric inverse modeling. We also do laboratory and field measurements of leaf biophysical and biochemical parameters.

✉ chenj@geog.utoronto.ca

Deborah Cowen, Associate Professor, PhD, University of Toronto (2005)

My research explores the politics of space and questions of citizenship. I am captivated by the ways groups claim space, organize and design space, interpret space, fight over space, govern space, and share space, particularly in cities. In all of my work I am interested in how territory is fashioned and how the political is remade through conflict. I am particularly interested in the role of organized violence in shaping intimacy, the racialization of space, and questions of gender and sexuality.

✉ deb.cowen@utoronto.ca

Amrita G. Daniere, Professor, and Vice-Dean, Graduate (UTM); PhD, Harvard University (1990)
Research interests include infrastructure planning in developing country cities, particularly Southeast Asia and Latin America. I am also working on a project related to building climate-change resiliency in the cities of the Global South through community-based environmental planning.

✉ amrita.daniere@utoronto.ca

Joseph R. Desloges, Professor and Principal, Woodsworth College; PhD, UBC (1987)
Current research focuses on Holocene river processes, floodplain development and geoarchaeology in southern Ontario. Additional research includes glacialacustrine and glacialmarine sedimentation chronologies in glacier-fed lakes and fiords of western Canada and Greenland.

✉ desloges@geog.utoronto.ca

Richard J. DiFrancesco, Associate Professor and Director of Urban Studies; PhD, McMaster University (1995)

Research interests include quantitative economic geography generally with an emphasis on regional and multiregional economic modelling; socioeconomic development in Canada's North; economic development and land use patterns in the Greater Golden Horseshoe; the local and regional development effects of redeveloping brownfield sites.

✉ difrance@geog.utoronto.ca

Matthew J. Farish, Associate Professor; PhD UBC (2003)

Militarism and geopolitics, the Cold War, environmental history, Arctic studies, urban culture.

✉ farish@geog.utoronto.ca

Emily Gilbert, Associate Professor; PhD, Bristol University (1998)

My current research deals with questions relating to citizenship, borders, security, the military and money. I am engaged in two primary research projects. The first is an examination of war and the valuation of life (and death), from battlefield payments, to claims made in response to acts of terrorism, to compensation for military veterans. A second line of inquiry is on the changing politics of the Canada-US border. I examine the ways that border risks--economic and social--are being used to discipline behaviour and promote new forms of citizenship practice, particularly with respect to migration.

✉ emily.gilbert@utoronto.ca

Kanishka Goonewardena, Associate Professor; PhD, Cornell University (1998)

Research focuses on architecture, planning, urban space, postmodernism, globalization and nationalism through three projects: first, an exploration of the relationship between the production of space and the production of ideology (The Urban Sensorium); second, a critique of the ascent of Sinhala-Buddhist nationalism in Sri Lanka as a response to globalization ("National Socialism" in Sri Lanka?); third, a study of how radical planning responds to the challenges of neoliberalism (The Future of Planning at the "End of History").

✉ kanishka.goonewardena@utoronto.ca

Jason Hackworth, Professor; PhD, Rutgers University (2000)

Research interests: political economy; comparative urban policy; declining cities; urban abandonment.

✉ jason.hackworth@utoronto.ca

L. D. Danny Harvey, Professor; PhD, University of Toronto (1986)

Research interests focus on the development of scenarios for the stabilization of atmospheric CO₂, an assessment of renewable energy systems for Canada, and the analysis of energy efficiency options and potentials in buildings worldwide.

✉ harvey@geog.utoronto.ca

Paul M. Hess, Associate Professor; PhD, University of Washington (2001)

Research is focused on streets as public space, pedestrians, urban and suburban form analysis, urban form and transportation, and planning history.

✉ hess@geog.utoronto.ca

Deborah Leslie, Professor and Canada Research Chair in the Cultural Economy, PhD, UBC (1995)
Research interests: commodity chains, material culture, cultural industries, urban economic development, economic geography, feminist geography.
✉ leslie@geog.utoronto.ca

Robert D. Lewis, Professor; PhD, McGill University (1992)
My current research interest are the economic geography of American and Canadian cities, 1850 and 1970; the social geography of Indian cities, 1880 and 1920; and social and industrial redevelopment in Chicago and Toronto, 1940 to 1970.
✉ lewis@geog.utoronto.ca

Jane J. Liu, Assistant Professor, PhD, University of Toronto (2010)
Research interests include atmospheric chemistry-climate interactions, atmosphere-biosphere interactions, remote sensing of the atmosphere and land, atmospheric environment modeling, and ecological modeling.
✉ janejj.liu@geog.utoronto.ca

Virginia W. Maclaren, Associate Professor and Chair of the Department; Graduate Char; PhD, Cornell University (1984)
Research interests include urban waste management; environmental planning and management; environmental impact assessment; sustainable cities and indicators. A regional focus on Southeast Asia and North America.
✉ maclaren@geog.utoronto.ca

Deborah McGregor, Associate Professor; PhD, University of Toronto (2000)
My research is in the area of Aboriginal environmental and resource management. The approach I take is interdisciplinary, and includes such topics as: environmental health, water quality, environmental assessment, sustainability, sustainable forest management, environmental planning, Indigenous knowledge and traditional knowledge (TK). My research focus has for the last few years centred on four areas: Indigenous knowledge in an urban context; Indigenous knowledge with a focus on gendered knowledge; Indigenous perspectives on water quality/quantity; and Indigenous research approaches. A core aspect of my work involves combining research and teaching in areas such as Indigenous education, health, Indigenous knowledge, Indigenous pedagogies and research approaches.
✉ mcmgregor@geog.utoronto.ca

Scott Prudham, Professor; PhD, University of California at Berkeley (1999)
My research interests lie at the intersection of a critical, pluralist political economy on the one hand, and the dynamics of environmental change on the other. I am particularly interested in the capitalism-nature nexus, and thus in questions concerning how the distinct political and economic character of capitalism (including commodity production and circulation, and the role of markets and property regimes) shapes and is shaped by environmental change and the politics of environmental justice. I think of this interest in succinct terms as a political ecology of capitalism, but of course that leads to the immediate questions "what is political ecology?" and "what is capitalism?". I have a particular interest in forestry and agriculture, as well as in the relationship between neoliberalism and environmental policy.
✉ scott.prudham@utoronto.ca

Katharine N. Rankin; Associate Professor; PhD, Cornell University (1999)
Politics of planning and development, feminist and critical theory, culture-economy articulations, diverse economies, comparative market regulation, ethnographic methods, South and Southeast Asia, Toronto.
✉ rankin@geog.utoronto.ca

Susan M. Ruddick, Professor; PhD, University of California at Los Angeles (1992)
In my conceptual / theoretical writings I have explored the ways French continental theorists (especially Deleuze, Foucault, and Negri) influence our understanding of space, power and subjecthood; and the role of affect in social mobilization. I have researched and written on the ways 'the child' confounds liberal notions of the subject, and am currently working on a project thinking the post-human (socio)natures through Deleuzian framework. Empirically this work has taken me into a series of projects to rethink the city: from the vantage point of children comprehensive study of middle school children; from the vantage

point of children with physical disabilities, exploring the ways their situation is compounded by environmental barriers to access and inclusion; and in rethinking the boundaries between city and wilderness (the GTA is a particularly bio-rich environment to explore this question).

✉ ruddick@geog.utoronto.ca

Matti Siemiatycki, Associate Professor; PhD, UBC (2006)

Transportation policy and planning; infrastructure finance and delivery; community and regional planning.

✉ siemiatycki@geog.utoronto.ca

Rachel M. Silvey, Associate Professor; PhD, University of Washington, Seattle (1997)

Research interests include migration, Indonesia, feminist theory, critical development studies, politics of transnationalism and Islam.

✉ silvey@geog.utoronto.ca

Neera Singh, Assistant Professor; PhD, Michigan State University (2009)

Research interests include forest governance; human ways of relating to nature; environmental behaviour and subjectivity; conservation and the ethics of care; community forestry; social movements; environmental justice; community economies and alternatives to market-based approaches to conservation. My research is based in Odisha in India where I have worked for over twenty years on community forestry; forest tenure and environmental justice issues.

✉ neera.singh@utoronto.ca

C.T. (Tat) Smith, Professor, PhD, Maine (1984)

Major research contributions and research management responsibilities have generally been in the area of developing sustainable forest management systems for bioenergy feedstock production.

✉ tat.smith@utoronto.ca

Sarah Wakefield, Associate Professor; PhD, McMaster University (2002)

My current research has three broad themes: (1) community food security policy and practice; (2) environmental justice in everyday life; and (3) “green” community development strategies. These areas are connected by an overarching interest in understanding how individuals and organizations work together to create healthy, just, and sustainable communities. I use a range of qualitative and quantitative methods to explore my areas of interest. Much of my current research involves interdisciplinary and intersectoral partnerships with community organizations and local policy actors, in order to maximize the utility of my work as a tool for social change.

✉ sarah.wakefield@utoronto.ca

Michael J. Widener, Assistant Professor; PhD, State University of New York at Buffalo (2012)

My current research is focused on the intersections between health, social wellbeing, accessibility, and transportation in urban spaces. I primarily use quantitative methods - including spatial analysis and statistics, GIScience, agent-based simulations, and optimization modelling - to explore these relationships. Recent projects include work on healthy food environments, older adults’ access to health services, space-time paths of children with chronic illness, and transportation to trauma facilities.

✉ michael.widener@utoronto.ca

Jun Zhang, Assistant Professor, PhD, University of Minnesota (2007)

I am a broadly trained economic geographer deeply interested in searching explanations to spatially-uneven economic development and innovation at multiple geographic scales. I grew up in China and had six years of work experience in Singapore. So my empirical interest is mostly associated with China and East Asia. It is my hope that all my empirical studies can add to the development of a more rigorous and comprehensive framework to comparative urban and regional studies, and in turn such a framework can help advance further empirical inquiries and understandings.

✉ zhang@geog.utoronto.ca

4 Programs of Study (Subject POSTs)

4.1 Introduction

Students studying Geography may take either an HBA or HBSc, depending upon the aspects they wish to emphasize. The Department offers several Specialist, Major and Minor Programs in Geography which are listed below. The Department of Geography also contributes courses to various departmental and college programs including American Studies; Anthropology; Archaeology; Canadian Studies and Peace and Conflict Studies; Equity Studies; Centre for Environment; Environmental Geosciences; Urban Studies; Ethics, Society and Law and International Relations; and European Studies. Counselling and advice may be obtained from the Associate Chair, Undergraduate or the Undergraduate Counsellor.

Associate Chair, Undergraduate: Robert Lewis, Sidney Smith Hall, Room 5003 (416-978-1590)
until December 31, 2015.

: Alana Boland, Sidney Smith Hall, Room 5006 (416-978-1587)
from January 1, 2016.

Undergraduate Counsellor: Benjamin Pottruff, Sidney Smith Hall, Room 5044 (416-978-6455)

For general enquiries please call the main Geography office at: 416-978-3375

Geography students have the opportunity to pursue Specialist, Major and Minor programs in the following program areas, depending on the aspects of geography that interest them the most.

1. **Human Geography** – Specialist, Major, Minor
2. **Environmental Geography** – Specialist, Major, Minor
3. **Physical & Environmental Geography** – Specialist, Major, Minor
4. **Environment & Energy**- Minor only (joint program with the School of the Environment)
5. **Geographic Information Systems** – Minor only
6. **Asian Geographies** – Minor only (offered jointly with the National University of Singapore)

To fulfil their degree requirements, the Faculty of Arts and Science requires students to enrol in subject POSTs which may include Specialist, Major and Minor programs in one or more departments (see pages 685-690 of the 2014-2015 Arts and Science PDF Calendar for Degree Requirements: http://www.artsandscience.utoronto.ca/ofr/calendar/PDF%20Calendar%20July_14_2014.pdf).

Owing to the wide variety of courses offered within the Department of Geography and to the interdisciplinary nature of geography, many students enrol in a Major or Minor program in the Department of Geography along with a Major or Minor program in another department. Others choose to make Geography the focus of their degree by enrolling in one of our Specialist programs.

Entry requirements for all Specialist programs: 0.5 FCE's at the 100 or 200 level with a final mark of 77% or 1.0 GGR FCE's at the 100 and/or 200 level with a final mark of 70% in each course.

Entry requirements for all Major programs: 0.5 GGR FCE's at the 100 or 200 level with a final mark of 73% or 1.0 GGR FCE's at the 100 and/or 200 level with a final mark of 67% in each course.

Minor Entry Requirements: There are no entry requirements.

Double majors in Geography must complete at least 13 different GGR/JFG/JGF/JGI/JUG/JGE credits and are only permitted 1.0 FCE overlap. Students combining any of our Minor programs with a Specialist/Major program would normally be allowed to count only 1.5 credits (of the 4.0 courses in the Minor program) towards both programs.

The three **Specialist** programs sponsored by the Department of Geography are intended for those students who wish to gain in-depth knowledge in the program area of their choice. They require between ten and twelve credits to complete, depending on the Specialist program pursued (see program requirements on the following pages). In the first year, students choose an introduction to a particular subfield. In the second and third years, they take courses which develop analytical skills and a deeper

understanding of that subfield. In the final year, a senior course investigates the latest thinking and research in the subfield. Students who do well in a geography Specialist program should find easy access to planning schools, graduate schools, and professional careers. The Specialist programs available in the Department of Geography are Environmental Geography; Human Geography; and Physical and Environmental Geography.

The three **Major** programs arrange courses in a similar way, but require fewer credits to complete and involve less research work than the Specialist programs (see program requirements on the following pages). The Major programs are designed for students who are looking for some depth of education in geography, but who are also pursuing equally important work in other disciplines. Successful majors in Geography obtain ready access to professional schools (law, business, planning, etc.) and graduate programs related to their disciplines. The Major programs available in the Department of Geography are: Environmental Geography; Human Geography; and Physical and Environmental Geography.

It is possible to transfer from a Specialist program to a Major program and vice versa, providing that you meet the entry requirements. Furthermore, students enrolled in two major programs *or* a major and a specialist program (sponsored by the Department of Geography) will be able to use up to one credit for both programs.

The **Minor** programs are designed for students who wish to add a geographic perspective to their own respective field. They require four credits to complete (see program requirements on the following pages). The Minor programs available in the Department of Geography are: Asian Geographies; Environment & Energy; Environmental Geography; Geographic Information Systems; Human Geography; and Physical and Environmental Geography. Students combining any of our minors with a specialist/major in geography would normally be allowed to count only **1.5** credits (of the 4.0 credits in the minor program) towards both programs. Students that choose to specialize or major in one of the 3 Geography programs cannot minor in the same program but may do so in another Geography program. Double minors can overlap 1.0 FCE.

For more important information on how to enrol in Geography Subject POSTs and the different types of Subject POSTs, please refer to the Faculty of Arts & Science Registration Handbook: http://www.artsci.utoronto.ca/current/course/timetable/1213_fw/step-2

4.2 Enrolment Controls

Enrolment controls are specific conditions placed on enrolment in certain courses. These conditions must be met in order to successfully register for these courses using ROSI (Repository of Student Information). These controls are listed in the *Registration Handbook and Timetable* beside the relevant courses. **Priority for enrolment in certain geography courses will be given to students registered in the relevant subject POST (Program of Study). Therefore it is important to enrol in a subject POST as soon as you are eligible to do so (i.e. after the completion of 4.0 credits).** During the first round of enrolment (July 15-August 6), enrolment controls are being used to ensure that students in our programs are given priority for courses that typically experience high demand. **The enrolment controls will be removed August 8th** enabling students in subject POSTs outside Geography to enrol in Geography courses. **It is therefore important that you register in the courses you need to complete your program during the 1st round of registration. Register early or courses will fill up!** If you are in a Geography subject POST and do not enrol in courses during the first round of registration we cannot place you into courses that are full in September or in January. **It is your responsibility to pay attention to registration dates, particularly if you are planning to graduate in November 2015 or June 2016.**

4.3 Program Descriptions

Students are advised to refer to the online calendar for updates on program requirements.

http://www.artsandscience.utoronto.ca/ofr/calendar/crs_ggr.htm

The definition of one course is: One "Y" or two "H" courses.

KEY TO SYMBOLS "/" = or ";" = and ":" = and

4.3.1 Environment & Energy Minor (Science program)

Subject POST code: 1552

Jointly sponsored by the School of the Environment and the Department of Geography, this interdisciplinary program addresses the scientific, technological, environmental and policy aspects of energy use and supply, with a focus on the reduction of environmental impacts.

Note: Students combining this program with a Specialist/Major sponsored by the Department of Geography will normally be allowed to count only 1.5 (of the 4.0) FCEs towards both programs.

Minor Entry Requirements: Note that the four full course equivalents that constitute the Minor Program are those listed below under "Higher Years." Consult David Powell, Undergraduate Student Advisor, School of the Environment, Room 1049A, Earth Sciences Centre, 416-946-8100 or david.powell@utoronto.ca

Environment & Energy Minor (Science Program)		
No. of courses	Courses	FCEs
A: First Year: At least 2 FCE from among	First Year Courses: (MAT135H1, MAT136H1)/MAT135Y1/MAT137Y1 and at least one FCE from among CHM138H1, CHM139H1, CHM151Y1; PHY131H1, PHY132H1, PHY151H1, PHY152H1	
B: All	ENV221H1 – Multidisciplinary Perspectives on Environment; ENV222H1 – Interdisciplinary Environmental Studies or GGR223H1 – Environment, Society and Resources	1.0
C: All	ENV346H1 – Terrestrial Energy Systems, ENV350H1 – Energy Policy & Environment, ENV450H1 – Energy & Environment Solutions	1.5
D: All	(GGR314H1 – Global Warming and GGR333H1 – Energy Supply and Use) or (GGR347H1 – Efficient Use of Energy and GGR348H1 – Carbon-Free Energy)	1.0
E: Any	Elective Course Options: CHM210H1 – Chemistry of Environmental Change, CHM310H1 – Environmental Chemistry, CHM415H1 – Topics in Atmospheric Chemistry; ENV235H1/ENV235Y1 – Physics & the Environment, ENV237H1- Physics of the Changing Environment A, ENV238H1- Physics of the Changing Environment; FOR310H1 – Bioenergy from Sustainable Forest Management, FOR410H1 – Bioenergy & Biorefinery Technology; GGR203H1 - Climatology, GGR303H1 – Climate-Biosphere Interactions, GGR314H1 – Global Warming (if not taken for section D), GGR403H1 – Global Ecology & Biogeochemical Cycles; HPS313H1 – Two-Hundred Years of Electricity; PHY231H1 – Physics of Living Systems, PHY250H1 – Electricity & Magnetism	0.5
Total		4.0

4.3.2 Environmental Geography (Arts program)

Subject POST code: 1252

Specialist Entry Requirements: This is a limited enrolment program that can only accommodate a limited number of students. Admission will be determined by one of the following:

0.5 FCE's at the 100 or 200 level with a final mark of 77% or 1.0 GGR FCE's at the 100 and/or 200 level with a final mark of 70% in each course.

Jointly-offered GGR courses will also be considered (e.g. JGI, JGE). Achieving these marks does not necessarily guarantee admission to the program in any given year.

Major Entry Requirements:

This is a limited enrolment program that can only accommodate a limited number of students. Admission is based on one of the following:

0.5 GGR FCE's at the 100 or 200 level with a final mark of 73% or 1.0 GGR FCE's at the 100 and/or 200 level with a final mark of 67% in each course.

Jointly-offered GGR courses will also be considered (e.g. JGI, JGE). Achieving these marks does not necessarily guarantee admission to the program in any given year.

Minor Entry Requirements: There are no entry requirements for this program.

Environmental Geography Specialist		
No. of courses	Courses	FCEs
A: Any 2	First Year Geography Courses: GGR100H1 – Physical Geography, GGR101H - Ancient Civilizations & their Environments, GGR107H1 - Environment, Food & People (recommended), GGR112H1 - Geographies of Globalization, Development & Inequality, GGR124H1 – Urbanization (or other GGR courses with permission of Department)	1.0
B: Any 2	Science Courses: GGR201H1 – Geomorphology, GGR203H1 – Climatology, GGR205H1 - Soil Science, GGR206H1 - Hydrology, GGR308H1 - Physical Aspects of the Canadian Arctic and Subarctic, GGR314H1 – Global Warming, GGR333H1- Energy Supply and Use, GGR347H1 - Efficient Use of Energy, GGR348H1 - Carbon-Free Energy, ENV200H1 - Assessing Global Change: Science and the Environment, ENV234H1 - Environmental Biology: Structure and Function of Ecosystems	1.0
C: All	Methods & Core Courses: GGR223H1 – Environment, Society, and Resources, GGR270H1 – Analytical Methods, GGR271H1 – Social Research Methods, GGR272H1 – Geographic Information & Mapping, JGE331H1 - Resource & Environmental Theory	2.5
D: Any 1	Regional Geography Courses: GGR240H1 – Historical Geography of North America, GGR246H1 - Geography of Canada, GGR254H1 - Geography USA, GGR341H1 - Changing Geography of Latin America, GGR342H1 - Changing Geography of Southeast Asia, GGR343H1 - The Changing Geography of China	0.5
E. Either	4 th Year Courses: GGR491Y1 - Research Project, or one of GGR416H1 - Environmental Impact Assessment, GGR492H1 - Senior Practicum, GGR497H1 - Independent Research I, and one additional 0.5 FCE 400 level course from Group A or Group B (below)	1.0
F: Any 8 half courses or equivalent	Up to 4.0 FCE from Group A; up to 1.5 FCE from Group B; up to 1.0 FCE from Group C (below)	4.0
Note: At least 4.0 FCEs must be 300/400 series courses. Of these, at least 1.0 FCE must be 400 series.		
Total		10.0

Environmental Geography Major		
No. of courses	Courses	FCEs
A: Any 2	First Year Geography Courses: GGR100H1 – Physical Geography, GGR101H - Ancient Civilizations & their Environments, GGR107H1 - Environment, Food & People (recommended), GGR112H1 - Geographies of Globalization, Development & Inequality, GGR124H1 – Urbanization (or other GGR courses with permission of Department)	1.0
B: Any 2	Science Courses: GGR201H1 – Geomorphology, GGR203H1 – Climatology, GGR205H1 - Soil Science, GGR206H1 - Hydrology, GGR308H1 - Physical Aspects of the Canadian Arctic and Subarctic, GGR314H1 – Global Warming, GGR333H1- Energy Supply and Use, GGR347H1 - Efficient Use of Energy, GGR348H1 - Carbon-Free Energy, ENV200H1 - Assessing Global Change: Science and the Environment, ENV234H1 - Environmental Biology: Structure and Function of Ecosystems	1.0
C: All	Methods & Core Courses: GGR223H1 – Environment, Society, and Resources, GGR270H1 – Analytical Methods, GGR271H1 – Social Research Methods	1.5
D: Any 1	Regional Geography Courses: GGR240H1 – Historical Geography of North America, GGR246H1 - Geography of Canada, GGR254H1 - Geography USA, GGR341H1 - Changing Geography of Latin America, GGR342H1 - Changing Geography of Southeast Asia, GGR343H1 - The Changing Geography of China	0.5
E: Any 1	0.5 FCE at the 400 level from Group A (below)	0.5
F: Any 5 half courses or equivalent	Up to 2.5 FCE from Group A; up to 1.0 FCE from Group B; up to 0.5 FCE from Group C (below)	2.5
Note: At least 2.0 FCEs must be 300/400 series courses. Of these, at least 0.5 FCE must be 400 series.		
Total		7.0

Environmental Geography Minor		
No. of courses	Courses	FCEs
A: Any 1	First Year Geography Courses: GGR100H1 – Physical Geography, GGR101H - Ancient Civilizations & their Environments, GGR107H1 - Environment, Food & People (recommended), GGR112H1 - Geographies of Globalization, Development & Inequality, GGR124H1 – Urbanization (or other GGR courses with permission of Department)	0.5
B: Mandatory	GGR223H1 – Environment, Society, and Resources	0.5
C: Any 1	Science Courses: GGR201H1 – Geomorphology, GGR203H1 – Climatology, GGR205H1 - Soil Science, GGR206H1 - Hydrology, GGR308H1- Physical Aspects of the Canadian Arctic and Subarctic, GGR314H1 – Global Warming, GGR347H1 - Efficient Use of Energy, GGR348H1 - Carbon-Free Energy, ENV200H1 - Assessing Global Change: Science and the Environment, ENV234H1 - Environmental Biology: Structure and Function of Ecosystems	0.5
D:	Elective Courses: Up to 2.5 FCE courses from Group A; up to 1.0 FCE from Group B (below)	2.5
Note: At least 1.0 FCE must be 300/400 series courses.		
Total		4.0

Environmental Geography Groups	
GROUP A (Geography courses) GGR201H1, GGR203H1, GGR205H1, GGR206H1, GGR223H1, GGR272H1, GGR273H1, GGR301H1, GGR303H1, GGR305H1, GGR308H1, FOR310H1, GGR314H1, GGR321H1, GGR329H1, GGR333H1, GGR334H1, GGR337H1, GGR338H1, GGR340H1, GGR341H1, GGR347H1, GGR348H1, GGR373H1, GGR381H1, GGR398H1, GGR399Y1, GGR403H1, GGR405H1, GGR409H1, GGR413H1, GGR416H1, GGR418H1, GGR419H1, GGR434H1, GGR438H1, GGR491Y1, GGR492H1, GGR497H1, GGR498H1; JFG470H1, JFG475H1; JGE236H1, JGE321H1, JGE331H1, JGE347H1, JGE348H1; JUG320H1	
GROUP B (School of the Environment courses) ENV200H1, ENV234H1, ENV307H1, ENV323H1, ENV333H1, ENV335H1, ENV350H1, ENV422H1	
GROUP C Any other geography courses at the 200/300/400 level not listed in Group A	

4.3.3 Geographic Information Systems (Arts program)

Subject POST code: 0305

GIS is the analysis and management of spatial data. It focuses on the mapping, modelling, and monitoring of the earth's surface, its resources, and its natural and socio-economic processes. Students combining this program with a Specialist/Major sponsored by the Department of Geography will normally be allowed to count only 1.5 (of the 4.0) FCEs towards both programs.

Minor Entry Requirements: There are no entry requirements for this program.

Geographic Information Systems Minor		
No. of courses	Courses	FCEs
A: Any 2 half courses	First Year Geography Courses: GGR100H1 - Physical Geography, GGR101H - Ancient Civilizations & their Environments, GGR107H1 - Environment, Food & People, GGR112H1 - Geographies of Globalization, Development & Inequality, GGR124H1 – Urbanization (or other GGR courses with permission of Department)	1.0
B: All 4	Methods and GIS Core Courses: GGR270H1 – Analytical Methods, GGR272H1 – Geographic Information & Mapping I, GGR273H1 – Geographic Information & Mapping II, GGR373H1 – Advanced Geographic Information Systems	2.0
C: Any 2 half courses	Elective Courses: GGR225H1 – Power of Maps & Geographic Information, GGR337H1 – Environmental Remote Sensing, GGR413H1 – Watershed Hydroecology, GGR462H1 – GIS Research Project, GGR473H1 – Cartographic Design, GGR491Y1 – Research Project, GGR492H1 – Senior Practicum, GGR497H1 or GGR498H1 or GGR499H1 – Independent Research, JFG470H1 – Forest Management, JFG475H1 – Forest Fire Management Systems	1.0
Note: At least 1.0 FCE must be 300/400 series courses		
Total		4.0

4.3.4 Human Geography (Arts program)

Subject POST code: 1667

Geography is the study of the physical and social processes that converge to create places. Human geography is the social science side of the discipline, and integrates many other fields in this pursuit, including sociology, economics, politics, history, and urban planning. The emphasis is on humans and their

institutions — in particular the different ways in which people create and maintain landscapes within varying natural environments.

Specialist Entry Requirements: This is a limited enrolment program that can only accommodate a limited number of students. Admission will be determined by one of the following:

0.5 FCE's at the 100 or 200 level with a final mark of 77% or 1.0 GGR FCE's at the 100 and/or 200 level with a final mark of 70% in each course.

Jointly-offered GGR courses will also be considered (e.g. JGI, JGE). Achieving these marks does not necessarily guarantee admission to the program in any given year.

Major Entry Requirements: This is a limited enrolment program that can only accommodate a limited number of students. Admission is based on one of the following:

0.5 GGR FCE's at the 100 or 200 level with a final mark of 73% or 1.0 GGR FCE's at the 100 and/or 200 level with a final mark of 67% in each course.

Jointly-offered GGR courses will also be considered (e.g. JGI, JGE). Achieving these marks does not necessarily guarantee admission to the program in any given year.

Minor Entry Requirements: There are no entry requirements for this program.

Human Geography Specialist		
No. of courses	Courses	FCEs
A: Any 2	First Year Geography Courses: GGR100H1 - Physical Geography, GGR101H - Ancient Civilizations & their Environments, GGR107H1 - Environment, Food & People, GGR112H1 - Geographies of Globalization, Development & Inequality, GGR124H1 – Urbanization (or other GGR courses with permission of Department)	1.0
B: Any 1 not used to satisfy A	Physical Geography Courses: GGR100H1 - Physical Geography, GGR101H1 - Ancient Civilizations & their Environments, GGR201H1 - Geomorphology, GGR203H1 – Climatology, GGR205H1 – Soil Science, GGR206H1- Hydrology	0.5
C: All 3	Methods Courses: GGR270H1 – Analytical Methods, GGR271H1 – Social Research Methods, GGR272H1 – Geographic Information & Mapping	1.5
D: Any 1	Regional Geography Courses: GGR240H1 – Historical Geography of North America, GGR246H1 – Geography of Canada, GGR254H1 – Geography USA, GGR341H1 – Changing Geography of Latin America, GGR342H1 – Changing Geography of Southeast Asia, GGR343H1 – Changing Geography of China	0.5
E: Any 2	4 th Year Courses: Any 400 series courses, at least one of which must be from Group E	1.0
F: Any 11 half courses or equivalent not used to satisfy E or D	Human Geography Electives: Up to 5.5 FCE's from Group E (below); Up to 1.5 FCE's may be from Group F	5.5
Note: At least 4.0 FCEs must be 300/400 series courses. Of these, at least 1.0 FCE must be 400 series. No more than 1.5 FCEs from Group F		
Total		10.0

Human Geography Major		
No. of courses	Courses	FCEs
A: Any 2	First year Geography courses: GGR100H1 - Physical Geography, GGR101H 1 - Ancient Civilizations & their Environments, GGR107H1 - Environment, Food & People, GGR112H1 - Geographies of Globalization, Development & Inequality, GGR124H1 – Urbanization (or other GGR courses with permission of Department)courses with permission of Department)	1.0
B: Any 1 not used to satisfy A	Physical Geography courses: GGR100H1 - Physical Geography, GGR101H1 - Ancient Civilizations & their Environments, GGR201H1 – Geomorphology, GGR203H1 – Climatology, GGR205H1 – Soil Science, GGR206H1- Hydrology	0.5
C: All	Methods Courses: GGR270H1 – Analytical Methods, GGR271H1 – Social Research Methods	1.0
D: Any 1	Regional Geography Courses: GGR240H1 – Historical Geography of North America, GGR246H1 – Geography of Canada, GGR254H1 – Geography USA, GGR341H1 – Changing Geography of Latin America, GGR342H1 – Changing Geography of Southeast Asia, GGR343H1 – Changing Geography of China	0.5
E: Any 1	4 th Year Courses: Any 400 series course from Group E	0.5
F: Any 7 half courses or equivalent not used to satisfy E or D	Human Geography Electives: Up to 3.5 FCE's from Group E (below); Up to 1.0 FCE's may be from Group F	3.5
Note: At least 2.0 FCEs must be 300/400 series courses. Of these, at least 0.5 must be 400 series.		
Total		7.0

Human Geography Minor		
No. of courses	Courses	FCEs
A: Any 2	First year Geography courses: GGR100H1 - Physical Geography. GGR101H 1 - Ancient Civilizations & their Environments, GGR107H1 - Environment, Food & People, GGR112H1 - Geographies of Globalization, Development & Inequality, GGR124H1 – Urbanization (Or other GGR courses with permission of Department)	1.0
	Human Geography Electives: Three other higher level GGR/JFG/JGE/JGI/JUG social science or humanities courses, including at least 1.0 FCEs of 300/400-series courses Up to 0.5 FCE may be from Group F	3.0
Total		4.0

Human Geography Groups

GROUP E Optional courses for Human Geography:

GGR216H1, GGR220H1, GGR221H1, GGR223H1, GGR225H1, GGR240H1, GGR241H1, GGR246H1, GGR252H1, GGR254H1, GGR272H1, GGR273H1, GGR299Y1, GGR300H1, GGR314H1, GGR320H1, GGR321H1, GGR323H1, GGR326H1, GR327H1, GGR328H1, GGR329H1, GGR334H1, GGR336H1, GGR338H1, GGR339H1, GGR340H1, GGR341H1, GGR342H1, GGR343H1, GGR352H1, GGR356H1, GGR357H1, GGR358H1, GGR359H1, GGR360H1, GGR361H1, GGR363H1, GGR373H1, GGR374H1, GGR381H1, GGR382H1, GGR398H1/399H1, GGR400H1, GGR416H1, GGR418H1, GGR419H1, GGR421H1, GGR424H1, GGR431H1, GGR433H1, GGR434H1, GGR438H1, GGR439H1, GGR452H1, GGR457H1, GGR458H1, GGR462H1, GGR473H1, GGR482H1, GGR491Y1, GGR492H1,

<p>GGR492Y1, GGR497H1, GGR499H1; JGE321H1, JGE331H1; JUG320H1; JGI216H1, JGI346H1, JGI454H1; JFG470H1, JFG475H1</p> <p>GROUP F (Optional Science Courses):</p> <p>GGR201H1, GGR203H1, GGR205H1, GGR206H1, GGR301H1, GGR303H1, GGR305H1, GGR308H1, GGR333H1, GGR337H1, GGR347H1, GGR348H1, GGR403H1, GGR405H1, GGR409H1, GGR413H1, GGR498H1; JGE236H1; FOR310H1</p>
<p>Course Clusters</p> <p>Students may wish to choose courses from among one or more of the following clusters if they want to concentrate in a particular area within Human Geography, while fulfilling the overall requirements given above. These are not POST requirements, but rather suggestions for students seeking guidance on how to navigate our course offerings.</p>
<p>Cultural and Historical Geography: GGR216H1, GGR240H1, GGR241H1, GGR246H1, GGR254H1, GGR321H1, GGR336H1, GGR341H1, GGR342H1, GGR343H1, GGR360H1, GGR361H1, GGR382H1, GGR421H1, GGR439H1, GGR482H1; JGI346H1; JUG320H1</p>
<p>Urban Geography: GGR112H1, GGR124H1, GGR216H1, GGR240H1, GGR241H1, GGR246H1, GGR252H1, GGR254H1, GGR336H1, GGR338H1, GGR339H1, GGR340H1, GGR342H1, GGR343H1, GGR357H1, GGR358H1, GGR359H1, GGR360H1, GGR361H1, GGR374H1, GGR381H1, GGR382H1, GGR424H1, GGR431H1, GGR433H1, GGR434H1, GGR457H1, GGR458H1, GGR482H1; JGI216H1, JGI346H1, JGI454H1</p>
<p>Social and Economic Geography: GGR107H1, GGR112H1, GGR124H1, GGR216H1, GGR220H1, GGR221H1, GGR223H1, GGR240H1, GGR241H1, GGR246H1, GGR252H1, GGR254H1, GGR320H1, GGR323H1, GGR327H1, GGR328H1, GGR329H1, GGR336H1, GGR340H1, GGR341H1, GGR342H1, GGR343H1, GGR352H1, GGR356H1, GGR357H1, GGR358H1, GGR359H1, GGR360H1, GGR361H1, GGR363H1, GGR374H1, GGR418H1, GGR419H1, GGR421H1, GGR424H1, GGR431H1, GGR438H1, GGR439H1, GGR452H1, GGR482H1; JGE331H1; JGI216H1</p>
<p>Political Geography: GGR112H1, GGR124H1, GGR216H1, GGR221H1, GGR225H1, GGR241H1, GGR320H1, GGR321H1, GGR327H1, GGR328H1, GGR339H1, GGR352H1, GGR358H1, GGR363H1, GGR418H1, GGR419H1, GGR421H1, GGR438H1, GGR439H1, GGR452H1, GGR457H1; JGE331H1; JGI216H1, JGI346H1; JUG320H1</p>
<p>Geography of Canada: GGR240H1, GGR246H1, GGR321H1, GGR336H1, GGR339H1, GGR357H1, GGR374H1, GGR457H1, GGR482H1; JGI346H1; JUG320H1</p>
<p>Environment: GGR107H1, GGR223H1, GGR240H1, GGR314H1, GGR321H1, GGR323H1, GGR329H1, GGR334H1, GGR337H1, GGR338H1, GGR340H1, GGR341H1, GGR343H1, GGR360H1, GGR381H1, GGR416H1, GGR418H1, GGR419H1, GGR421H1, GGR434H1, GGR438H1, GGR462H1, GGR473H1; JFG470H1, JFG475H1; JGE321H1, JGE331H1; JUG320H1</p>
<p>Planning: GGR124H1, GGR216H1, GGR225H1, GGR334H1, GGR336H1, GGR338H1, GGR339H1, GGR340H1, GGR343H1, GGR356H1, GGR357H1, GGR359H1, GGR361H1, GGR374H1, GGR381H1, GGR382H1, GGR416H1, GGR424H1, GGR431H1, GGR433H1, GGR434H1, GGR457H1, GGR458H1, GGR482H1; JGI216H1, JGI346H1, JGI454H1</p>

4.3.5 Physical and Environmental Geography (Science program)

Subject POST code: 2030

How does the greenhouse gas issue relate to other environmental problems? What has been the changing relationship between people and the biosphere through time? What evidence from the earth's surface and oceans can be found to explain environmental changes? What are some of the techniques that can be used to interpret and analyse the earth's surface features? How do pollutants move through the environment?

Specialist Entry Requirements: This is a limited enrolment program that can only accommodate a limited number of students. Admission will be determined by one of the following:

0.5 FCE's at the 100 or 200 level with a final mark of 77% or 1.0 GGR FCE's at the 100 and/or 200 level with a final mark of 70% in each course.

Jointly-offered GGR courses will also be considered (e.g. JGI, JGE). Achieving these marks does not necessarily guarantee admission to the program in any given year.

Major Entry Requirements: This is a limited enrolment program that can only accommodate a limited number of students. Admission will be determined by one of the following:

0.5 GGR FCE's at the 100 or 200 level with a final mark of 73% or 1.0 GGR FCE's at the 100 and/or 200 level with a final mark of 67% in each course.

Jointly-offered GGR courses will also be considered (e.g. JGI, JGE). Achieving these marks does not necessarily guarantee admission to the program in any given year.

Minor Entry Requirements: There are no entry requirements for this program.

Physical and Environmental Geography Specialist		
No. of courses	Courses	FCEs
A: Any 6 half courses or the equivalent	Introductory Courses: GGR100H1- Physical Geography; MAT123H1/MAT125H1, MAT124H1/MAT126H1, MAT133Y1/MAT135Y1/MAT137Y1/MAT157Y1, MAT223H1/MAT240H1, MAT224H1/MAT247H1; PHY131H1/PHY151H1, PHY132H1/PHY152H1; CME119H1 (Faculty of Engineering); CHM138H1, CHM139H1, CHM151Y1; BIO120H1, BIO130H1, at least two of which must be Math or Physics half courses.	3.0
B: Any 4	Physical Geography Courses: GGR201H1 – Geomorphology, GGR203H1 – Climatology, GGR205H1 - Soil Science, GGR206H1 - Hydrology, up to one half course from Group H (below)	2.0
C: Any 1	Regional Geography Courses: GGR101H1 – Ancient Civilizations and Environments, GGR240H1 - Historical Geography of North America, GGR246H1 - Geography of Canada, GGR254H1- Geography USA, GGR341H1 - Changing Geography of Latin America, GGR342H1 - Changing Geography of Southeast Asia, GGR343H1- The Changing Geography of China	0.5
D: All 4	Methods Courses: GGR270H1 – Analytical Methods, GGR272H1 - Geographic Information & Mapping, GGR337H1- Environmental Remote Sensing, GGR390H1 - Field Methods in Physical Geography	2.0
E: Any 7	GGR273H1 - Geographic Information and Mapping II, GGR301H1 - Fluvial Geomorphology, GGR303H1 - Climate-Biosphere Interactions, GGR305H1 - Biogeography, GGR307H1 - Soil and Water: Landscape Processes, GGR308H1 - Physical Aspects of the Canadian Arctic and Subarctic, FOR310 - Bioenergy from Sustainable Forest Management, GGR314H1 – Global Warming, GGR347H1 - Efficient Use of Energy, GGR348H1 – Carbon-Free Energy, GGR373H1 - Advanced Geographic Information Systems (but no more than one of GGR273H1, GGR373H1), GGR416H1 - Environmental Impact Assessment, any GGR course from the list for	3.5

Physical and Environmental Geography Specialist		
	requirement B and F not already used; up to three half courses from Group I	
F: Any 2	GGR403H1 - Global Ecology & Biogeochemical Cycles, GGR405H1 - Sustainable Systems for Natural Resources Management, GGR409H1- Contaminants in the Environment, GGR413H1 - Watershed Hydroecology, GGR491Y1 - Research Project, GGR498H1 – Independent Research II, 400-series in Group I, but the total number of half courses from Group I (including 300-series courses) must not exceed 3	1.0
Total		12.0

Physical and Environmental Geography Major		
No. of courses	Courses	FCEs
A: Any 4 half courses or the equivalent	Introductory Courses : GGR100H1- Physical Geography, MAT123H1/MAT125H1, MAT124H1/MAT126H1, MAT133Y1/MAT135Y1/MAT137Y1/MAT157Y1, MAT223H1/MAT240H1, MAT224H1/MAT247H1; PHY131H1/PHY151H1, PHY132H1/PHY152H1; CME119H1 (Faculty of Engineering); CHM138H1, CHM139H1, CHM151Y1; BIO120H1, BIO130H1, at least two of which must be Math or Physics half courses	2.0
B: Any 3	Physical Geography Courses: GGR201H1 – Geomorphology, GGR203H1 – Climatology, GGR205H1 - Soil Science, GGR206H1 - Hydrology	1.5
C: Any 1	Regional Geography Courses: GGR101H1 – Ancient Civilizations and Environments, GGR240H1 - Historical Geography of North America, GGR246H1 - Geography of Canada, GGR254H1- Geography USA, GGR341H1 - Changing Geography of Latin America, GGR342H1 - Changing Geography of Southeast Asia , GGR343H1- The Changing Geography of China	0.5
D: All 3	Methods Courses: GGR270H1 – Analytical Methods, GGR272H1 - Geographic Information & Mapping, GGR390H1 - Field Methods in Physical Geography	1.5
E: Any 4	GGR273H1 - Geographic Information and Mapping II, GGR301H1 - Fluvial Geomorphology, GGR303H1 - Climate-Biosphere Interactions, GGR305H1 - Biogeography, GGR307H1 - Soil and Water: Landscape Processes, GGR308H1 - Physical Aspects of the Canadian Arctic and Subarctic, FOR310 - Bioenergy from Sustainable Forest Management, GGR314H1 – Global Warming, GGR337 - Environmental Remote Sensing, GGR347H1 - Efficient Use of Energy, GGR348H1 - Carbon-Free Energy, GGR373H1 - Advanced Geographic Information Systems, GGR416H1 - Environmental Impact Assessment, (but no more than one from GGR273H1, GGR373H1); any GGR course from the list for requirement B and F not already used; any one half course from Group I (below)	2.0
F: Any 1	GGR403H1 - Global Ecology & Biogeochemical Cycles, GGR405H1 - Sustainable Systems for Natural Resources Management, GGR409H1- Contaminants in the Environment, GGR413H1 - Watershed Hydroecology, GGR491Y1 - Research Project, GGR498H1 – Independent Research II	0.5
Total		8.0

Physical and Environmental Geography Minor		
No. of courses	Courses	FCEs
A: Any 2	First Year Geography Courses: GGR100H1 - Physical Geography. GGR101H - Ancient Civilizations & their Environments, GGR107H1 - Environment, Food & People, GGR112H1 - Geographies of Globalization, Development & Inequality, GGR124H1 - Urbanization	1.0
B: Any 2	GGR201H1 - Geomorphology, GGR203H1 – Climatology, GGR205H1 – Soil Science, GGR206H1- Hydrology	1.0
C: 3	GGR390H1 - Field Methods in Physical Geography; (GGR301H1 - Fluvial Geomorphology /GGR303H1 - Climate-Biosphere Interactions /GGR305H1 -	1.5

Physical and Environmental Geography Minor		
	Biogeography); (GGR272H1 - Geographic Information & Mapping /GGR308H1 - Physical Aspects of the Canadian Arctic and Subarctic/ GGR337H1 - Environmental Remote Sensing)	
D: Any 1	A half course from GGR201H1 – Geomorphology, GGR203H1 – Climatology, GGR205H1 - Soil Science, GGR206H1 - Hydrology, GGR301H1 - Fluvial Geomorphology, GGR303H1 - Climate-Biosphere Interactions, GGR305H1 - Biogeography, GGR307H1 - Soil and Water: Landscape Processes, GGR308H1 - Physical Aspects of the Canadian Arctic and Subarctic, FOR310 - Bioenergy from Sustainable Forest Management, GGR314H1 – Global Warming, GGR347H1 - Efficient Use of Energy, GGR348H1 – Carbon-Free Energy, GGR403H1 - Global Ecology & Biogeochemical Cycles, GGR405H1 - Sustainable Systems for Natural Resources Management, GGR409H1- Contaminants in the Environment, GGR413H1 - Watershed Hydroecology; JGE236H1 - Human Interactions with the Environment	0.5
Total		4.0

Physical and Environmental Geography Groups

Below are courses from outside the Geography Department that can be applied to the requirements for the Physical and Environmental Geography Major (one course only) or the Specialist (up to 3 courses only); these courses are an option only for students that have the required pre-requisites.

GROUP H (Faculty of Arts & Science courses): CHM217H1, CHM310H1; ESS221H1, ESS261H1; GLG216H1; PHY251H1, PHY255H1. Faculty of Engineering courses: CHE210H1; EDV250H1

GROUP I: EEB301H1, EEB302H1, EEB303H1, EEB304H1, EEB305H1, EEB310H1, EEB311H1, EEB319H1, EEB321H1, EEB324H1, EEB328H1, EEB330H1, EEB428H1; ENV346H1; ESS311H1, ESS461H1; FOR301H1, FOR305H1, FOR306H1, FOR417H1; PHY392H1, PHY408H1

Course Clusters

Students may wish to choose courses from among one or more of the following clusters if they wish to concentrate in a particular area within Physical & Environmental Geography (Science). These are not POST requirements, but rather suggestions for students seeking guidance on how to navigate our course offerings.

Climate System and Climatic Change: GGR203H1, GGR303H1, GGR314H1, GGR403H1, ENV346H1

Land Surface Processes: GGR100H1, GGR201H1, GGR205H1, GGR206H1, GGR301H1, GGR305H1, GGR409H1, GGR413H1

Biogeography and Paleoclimates: GGR101H1, GGR201H1, GGR305H1

Biogeochemistry and Contaminants: GGR100H1, GGR205H1, GGR303H1, GGR403H1, GGR409H1

Environmental Physical Geography: GGR101H1, GGR201H1, GGR203H1, GGR205H1, GGR206H1, GGR301H1, GGR308H1, GGR314H1, GGR405H1, GGR409H1, GGR413H1

Students contemplating graduate studies are strongly urged to combine their Physical Geography Major or Specialist with a Minor in Mathematics (involving calculus, linear algebra, and differential equations) and a Minor in a field of science related to their particular interests in physical geography (biology, chemistry, geology, or physics).

4.3.6 Asian Geographies Minor

Offered jointly with the National University of Singapore (Social Science program)

Subject POST code: 2727

This Type 3 minor program represents a unique opportunity to study geography in a different cultural environment. For more information, contact Kathy Giesbrecht, the Undergraduate Counsellor at: 416-978-6455, and the Centre for International Experience (CIE, www.cie.utoronto.ca). NUS courses need to be approved before traveling to Singapore.

Asian Geographies Minor		
No. of courses	Courses	FCEs
A: Any half course	First Year Geography Courses: GGR100H1 - Physical Geography, GGR101H - Ancient Civilizations & their Environments, GGR107H1 - Environment, Food & People, GGR112H1 - Geographies of Globalization, Development & Inequality, GGR124H1 – Urbanization (or other GGR course with permission of Department)	0.5
B: Any 3 half courses (U of T)	Elective Courses: Other higher level GGR/JGE/JGI/JFG/JUG courses	1.5
C: Any 4 half courses (NUS)	National University of Singapore Course Options: NUS250H0, NUS251H0, NUS252H0, NUS253H0, NUS254H0, NUS255H0, NUS256H0, NUS350H0, NUS351Y0, NUS352H0, NUS353H0, NUS354H0 (or other NUS course with permission of the department)	2.0
Note: At least 1.0 FCE must be at the 300/400 level (from U of T or NUS)		
Total		4.0

5 Choosing Your Courses

Before choosing your courses, read through the Arts and Science Calendar and Timetable, as well as through this Handbook. If you have completed 4.0 credits you should select a Subject POST (Program of Study) that interests you (you are eligible to enrol in a program of study after the completion of 4.0 credits – see Section 3.3 Enrolment Controls for more information). Please note that in addition to the GGR courses listed in the Timetable, the Department of Geography offers some courses jointly with other departments. These courses are listed in the “Joint Courses” section of the Timetable and form a part of our programs. Keeping in mind the program requirements, select a set of courses that you would like to take, paying close attention to prerequisites and exclusions. You must register for courses using the registration procedures outlined in the Arts and Science Timetable. Keep in mind that you must complete your degree requirements (breadth requirements, correct number of courses at each level, etc.) as well your program requirements. If you need counselling about your degree requirements, please talk to your College Registrar.

5.1 Sequence of Courses

If you select courses without regard to the requirements of the POST that you plan to pursue, you may run into difficulties completing the POST and earning your degree. It is wise to try to keep your options open early in your degree. The best way to do this is to complete your POST requirements by taking courses in the sequence in which they are meant to be taken (see program descriptions for more details). Each program has a number of required courses, as well as a list of options from which you may choose courses. This list of options includes 200-, 300-, and 400-level courses. Please note that you should not wait until your final year to take courses from this option list. You should take some of these courses along with the required courses for your program in your 2nd and 3rd years of study. It is also important to take the required courses in your program in the year they are meant to be taken. For instance, you should take a Section A course in your 1st year and you should take the 200-level required courses (eg. GGR205H, GGR221H, GGR240H, GGR270H, GGR271H, GGR272H) in your 2nd year since these are prerequisites for some 300/400 level courses. If at any time you have questions about how to complete your program or about choosing courses, please seek advice from the Undergraduate Coordinator (416 978-1587) or the Undergraduate Counsellor (416 978-6455). **Do not hesitate to get advice BEFORE you make your decisions. This can save you a lot of headaches later on!**

5.2 Independent Research Courses

The Department of Geography offers five independent research courses: GGR491Y1, GGR492H1, GGR497H1, GGR498H1, GGR499H1. These courses are designed to enable students to deepen their understanding of Geography and to develop their research skills by pursuing projects in a branch of the discipline that interests them (see course descriptions in the online calendar for details about each course). The benefits of an independent research course are not limited to students in Specialist programs or to those who wish to pursue graduate work. An independent research course will equip you with excellent research and analytical skills that will benefit you in the work place. If you are interested in taking one of our research courses, please review the research interests of our faculty described in Section 3 to determine who you would like to work with and contact the department for information about registration in these courses.

6 Courses offered in 2015-2016

The following courses will be available subject to faculty resources. **Not all courses are available every year.** For complete course descriptions and current timetable, please see the Arts & Science Calendar.

Course Descriptions: http://www.artsandscience.utoronto.ca/ofr/calendar/crs_ggr.htm

Course Timetables: <http://www.artsandscience.utoronto.ca/ofr/timetable/winter/ggr.html>

Breadth Requirements (BR)

Students beginning degree studies in September 2010 or after are required to complete the following Breadth Requirement as a part of their Degree Requirements. Courses in the Faculty of Arts and Science are classified into five Breadth categories by subject content. (Note that some courses are not designated and do not count toward this requirement). The purpose of the Breadth Requirement is to ensure all students graduating with an Honours degree from the Faculty of Arts and science have chosen courses across a broad range of subject areas in the Faculty as a part of their undergraduate education.

Students must take at least 4 full-course equivalents (FCEs) that have been designated as satisfying the Breadth Requirement. These 4 credits must be either (a) at least 1 FCE in each of any 4 of the 5 categories above, or (b) at least 1 FCE in each of any 3 of the 5 categories, and at least 0.5 FCE in each of the other 2 categories.

NOTE: It is the responsibility of the student to ensure that all prerequisites and exclusions are understood and abided by. In some cases, prerequisites may be waived if equivalent background exists. Please consult the Associate Chair, Undergraduate or the Undergraduate Counsellor. Failure to speak with them may result in your removal from courses (even after classes begin).

BR 1= Creative and Cultural Representations

BR 2= Thought, Belief, and Behaviour

BR 3= Society and Its Institutions

BR 4= Living Things and Their Environment

BR 5= The Physical and Mathematical Universes

Course Code	BR	Title	Instructor
GGR100H1F	5	Introduction to Physical Geography	<i>N. Hewitt</i>
GGR101H1S	4	Ancient Civilizations and their Environments	<i>P. Bikoulis</i>
GGR107H1F	3	Environment, Food and People	<i>N. Simms</i>
GGR112H1F	3	Geographies of Globalization, Development & Inequality	<i>T. Arviv</i>
GGR124H1F (L2001; L5101)	3	Urbanization	<i>D. Dupuy</i>
GGR124H1S (L0101; L5101)	3	Urbanization, Contemporary Cities and Urban Life	<i>D. Cowen</i>
GGR201H1S	5	Geomorphology	<i>TBA</i>
GGR203H1F	5	Introduction to Climatology	<i>D. Harvey</i>
GGR205H1F	5	Introduction to Soil Science	<i>T. Smith</i>
GGR206H1S	5	Introduction to Hydrology	<i>J. Chen</i>
JGI216H1S	3	Globalization and Urban Change	<i>D. Roberts</i>
<i>**Courses not offered this year may be offered in upcoming years.</i>			

Course Code	BR	Title	Instructor
GGR216H1	3	Global Cities	Not Offered in 2015-16
GGR217H1F	3	Urban Landscapes and Planning	<i>K. Rankin</i>
GGR220H1	3	The Spatial Organization of Economic Activity	Not Offered in 2015-16
GGR221H1S	3	New Economic Spaces	<i>D. Leslie</i>
GGR223H1S	3	Environment, Society, and Resources	<i>A. Boland</i>
GGR225H1S	3	Power of Maps and Geographic Information	<i>M Fortin</i>
GGR240H1S	3	Historical Geography of North America	<i>M. Farish</i>
GGR241H1F	3	Historical Geography of Urban Exclusion & Segregation	<i>R. Lewis</i>
GGR246H1F	3	Geography of Canada	<i>M. Hewer</i>
GGR251H1F	3	Geography of Innovation	<i>J. Zhang</i>
GGR252H1S	3	Marketing Geography	<i>S. Swales</i>
GGR254H1S	3	Geography USA	<i>T. Arviv</i>
GGR270H1F	None	Analytical Methods	<i>M. Widener</i>
GGR271H1S	None	Social Research Methods	<i>M. Siemiatycki</i>
GGR272H1F	5	Geographic Information and Mapping I	<i>D. Boyes</i>
GGR273H1S	5	Geographic Information and Mapping II	<i>D. Boyes</i>
GGR299Y1	None	Research Opportunity Program	Not Offered in 2015-16
GGR300H1F	None	Special Topics in Geography I: Comparative Geography of Innovation and Entrepreneurship	<i>M. Widener</i>
GGR301H1S	5	Fluvial Geomorphology	Not Offered in 2015-16
GGR303H1F	4	Climate-Biosphere Interactions	Not Offered in 2015-16
GGR305H1S	4	Biogeography	<i>N. Hewitt</i>
GGR307H1	5	Soil and Water: Landscape Processes	Not Offered in 2015-16
GGR308H1S	5	Physical Aspects of the Canadian Arctic and Subarctic	Not Offered in 2015-16
GGR314H1S	5	Global Warming	<i>D. Harvey</i>
GGR320H1F	3	Geographies of Transnationalism, Migration, and Gender	<i>R. Silvey</i>
JUG320H1F	2	The Canadian Wilderness	Not Offered in 2015-16
GGR321H1	3	Aboriginal People & Environmental Issues in Canada	Not Offered in 2015-16
JGE321H1S	3	Multicultural Perspectives on Environmental Management	<i>C. Abizaid</i>
GGR323H1	3	Issues in Population Geography	Not Offered in 2015-16
<i>** Courses not offered this year may be offered in upcoming years.</i>			

Course Code	BR	Title	Instructor
GGR326H1S	3	Remaking the Global Economy	<i>J. Zhang</i>
GGR327H1F	3	Geography and Gender	<i>D. Seitz</i>
GGR328H1S	3	Labour Geographies	<i>E. Reid-Musson</i>
GGR329H1S	3	Global Food System	<i>T. Soma</i>
JGE331H1S	3	Resource & Environmental Theory	<i>J. Nugent</i>
GGR333H1	5	Energy Supply & Use	Not Offered in 2015-16
GGR334H1F	3	Water Resource Management	<i>R. Verma</i>
GGR336H1	3	Urban Historical Geography of North America	Not Offered in 2015-16
GGR337H1S	5	Environmental Remote Sensing	<i>J. Chen</i>
GGR338H1	3	Environmental Problems in Developing Countries	<i>J. Squire</i>
GGR339H1S	3	Urban Geography, Planning & Political Processes	<i>J. Proudfoot</i>
GGR340H1S	3	Health Geography	<i>S. Wakefield</i>
GGR341H1S	3	Changing Geography of Latin America	<i>C. Abizaid</i>
GGR342H1	3	Changing Geography of Southeast Asia	Not Offered in 2015-16
GGR343H1F	3	The Changing Geography of China	<i>L. Yu</i>
JGI346H1S	3	The Urban Planning Process	Not Offered in 2015-16
GGR347H1F	5	Efficient Use of Energy	Not Offered in 2015-16
GGR348H1	5	Carbon-Free Energy	<i>D. Harvey</i>
GGR352H1	3	Urban Spatiality	Not Offered in 2015-16
GGR356H1	3	Recreation & Tourism (formerly GGR256H1)	Not Offered in 2015-16
GGR357H1S	3	Housing and Community Development	<i>J. Hulchanski</i>
GGR358H1	3	Geography, Political Economy & Religion	Not Offered in 2015-16
GGR359H1S	3	Comparative Urban Policy	<i>J. Hackworth</i>
GGR360H1S	1	Culture, History & Landscape	<i>D. Clark</i>
GGR361H1F	3	Understanding Urban Landscapes	Not Offered in 2015-16
GGR363H1S	3	Critical Geographies: Introduction to Radical Ideas on Space, Society, and Culture	<i>K. Goonewardena</i>
GGR373H1F	5	Advanced Geographic Information Systems	<i>K. Larsen</i>
GGR374H1F	3	Urban Dynamics	Not Offered in 2015-16
<i>** Courses not offered this year may be offered in upcoming years.</i>			

Course Code	BR	Title	Instructor
GGR375H1	3	The Evolution of Geography Information	Not Offered in 2015-16
GGR381H1F	3	Field Course in Environmental Geography	Not Offered in 2015-16
GGR382H1F	3	Field Course in Human Geography	<i>D. Cowen</i>
GGR390H1F	None	Field Methods in Physical Geography	<i>J. Chen</i>
GGR398H0	None	Independent Experimental Study Project	Not Offered in 2015-16
GGR399Y0	None	Independent Experimental Study Project	Not Offered in 2015-16
GGR400H1		Special Topics in Geography I: Developing Web Maps	<i>M. Widener</i>
GGR401H1		Special Topics in Geography II	Not Offered in 2015-16
GGR403H1S	4	Global Ecology & Biogeochemical Cycles	Not Offered in 2015-16
GGR405H1S	4	Sustainable Systems for Natural Resources Management	<i>T. Smith</i>
GGR409H1	4	Contaminants in the Environment	Not Offered in 2014-15
GGR413H1F	5	Watershed Hydroecology	<i>J. Liu</i>
GGR416H1F	3	Environmental Impact Assessment	<i>J. Taylor</i>
GGR418H1	3	Political Economy of Natural Resources	Not Offered in 2015-16
GGR419H1	3	Environmental Justice	<i>M. Young</i>
GGR421H1	3	History & Philosophy of Geography	Not Offered in 2015-16
GGR424H1S	3	Transportation Geography & Planning	<i>M. Siemiatycki</i>
GGR430H1F	3	Geographies of Markets	<i>J. Zhang</i>
GGR431H1S	3	Regional Dynamics	<i>R. DiFrancesco</i>
GGR433H1S	3	Built Environment & Health	<i>P. Kaufman</i>
GGR434H1S	3	Building Community Resilience	Not Offered in 2015-16
GGR438H1S	3	Environment and Development	Not Offered in 2015-16
GGR439H1	3	Global Political Geography	Not Offered in 2015-16
GGR452H1F	3	Space, Power, Geography: Understanding Spatiality	Not Offered in 2015-16
JGI454H1F	3	The Role of the Planner: Making a Difference	Not Offered in 2015-16
GGR457H1	3	Post War Suburbs	<i>T. Arviv</i>
GGR458H1F	3	Advanced Topics in Urban Geography	<i>J. Hackworth</i>
GGR462H1S	5	GIS Advanced Research	<i>K. Larsen</i>
JFG470H1	3	Forest Management	Not Offered in 2015-16
<i>** Courses not offered this year may be offered in upcoming years.</i>			

Course Code	BR	Title	Instructor
GGR473H1	None	Cartographic Design	Not Offered in 2015-16
JFG475H1	3	Emergency Response Systems Planning	Not Offered in 2015-16
GGR482H1F	3	Toronto Geography Field Course	Not Offered in 2015-16
GGR491Y1Y	None	Research Project	TBA
GGR492H1F/H1S/H1Y/Y1Y	None	Senior Practicum	TBA
GGR493Y1Y	None	Geography Professional Experience	D. Leslie / E. Rae
GGR497H1	None	Independent Research	TBA
GGR498H1F/H1S/H1Y	None	Independent Research	TBA
GGR499 H1F/H1S/H1Y	None	Independent Research	TBA
NUS250H0*	3	Cities in Transition	
NUS251H0*	3	Southeast Asia	
NUS252H0*	3	Rice, Spice & Trees: Peasants In Southeast Asia	
NUS253H0*	3	Economy And Space	
NUS254H0*	3	Geographies of Social Life	
NUS255H0*	3	Cities and Urban Life in Southeast Asia	
NUS256H0*	3	Changing Landscape of Singapore	
NUS350H0*	3	Natural Resources: Policy and Practice	
NUS351Y0*	None	Field Studies in Geography: SE Asia	
NUS352H0*	3	East Asia	
NUS353H0*	3	Globalization and Asian Cities	
NUS354H0*	3	South Asia: Development, Issues, Debates	
<i>** Courses not offered this year may be offered in upcoming years.</i>			

* NUS courses = National University of Singapore courses in the Asian Geographies program

7 Careers and Further Study

Employment opportunities for geographers exist in many branches of international organizations, government, industry, and education. Geographers work at all levels of government service, especially in agencies responsible for environmental management; land and resource analysis; development of historic districts and sites; urban transportation planning; urban and regional development planning; trade promotion; community social services; geographic systems design and data analysis; transport network design and the processing of archival, survey, and cartographic information. In business, geographers work in marketing, locational analysis, resource development, and in consulting firms engaged in project evaluation, land use planning and natural heritage conservation. They often also find work in the non-profit sector as policy analysts, cartographers and geographic information science specialists, community organizers, and educators.

During the course of their studies, geography students are taught practical skills (such as data collection and analysis) and learn how to analyse information and formulate a new understanding of their surroundings from a distinctly geographical perspective. Geographers have proven that their combination of natural and social science knowledge and research capabilities can contribute to solving many of the complex problems facing business and government agencies. Due to their professional training, geographers are flexible and resourceful problem solvers who can complete a wide range of assignments. By their training, geographers correlate physical, economic and social phenomena – the milieu of most real decisions. As a student who has majored or specialized in Geography, you can learn some of the skills that allow you to:

- Estimate the resource potential of an area;
- Plan future resource and land use in an area;
- Evaluate the social, economic, physical and environmental impacts of future developments, policies or programs;
- Understand domestic or foreign regions;
- Coordinate multidisciplinary approaches to land use and community development projects;
- Select favourable locations for industrial plants, offices, retail stores or public service facilities;
- Measure and monitor physical and chemical processes in the environment;
- Integrate information and numerical data on the environment, land use and resources from a wide variety of sources;
- Interpret data from geo-coded information systems and remote sensing images;
- Produce computer maps and diagrams from numerical data;
- Extract and analyse archival information.

In Canada, geographers are employed in the natural resource and transport sectors of federal and provincial governments, in academic positions in universities and schools, and as consultants in private business. They work in local government in planning offices, community services, parks and recreation departments and with watershed conservation authorities. In the private sector, they use their skills in primary industry, manufacturing, transportation and communication, urban development, cartographic presentation, marketing, and in research and development.

Geographers are uniquely qualified to solve problems of competing land use, complex land management and integrated natural resources development. They are specialists in building geographic information systems that use computers to handle the data needed to investigate such issues.

The University of Toronto Association of Geography Alumni (UTAGA) has a business card collection of geography graduates. A number of these are displayed outside their office (SS 5031). Stop by and take a look, it will give you an idea of the kinds of work our former graduates are now doing. For more information about our alumni association, please contact the UTAGA office at utaga@geog.utoronto.ca or visit the UTAGA website, a link to which can be found at geography.utoronto.ca. Remember to send us *your* business card when you graduate!

8 Departmental Scholarships and Awards

Listed below are the scholarships, awards and grants that undergraduate Geography students are eligible for. Changes may be made to some of these scholarships, awards and grants after the publication of this handbook. To view updated information, please refer to the Scholarships and Awards binder available at your College Registrar or at any department. You can also visit the Faculty of Arts and Science website at www.artsci.utoronto.ca/current/scholarships.

Please note that applications are required only for grants, not for awards or scholarships. When applying, please clearly indicate which grant you would like to be considered for. An application includes a letter to the Chair that explains your current financial need and educational background. Submit to the Undergraduate Counsellor by June 1, Oct 1, or Feb 1.

8.1 Alpar Scholarship

Awarded to a senior student enrolled in a Specialist or Major program offered by the Department of Geography who has demonstrated excellence in his or her studies. This scholarship is in honour of the late Zehra Alpar, the Department's student advisor from 1967-1994.

8.2 Alpar Grant

Awarded to a student enrolled in a Specialist or a Major program offered by the Department of Geography who is making good progress to the completion of the degree requirements. Financial need must be considered. Academic merit may also be considered. Awarded three times a year in compliance with OSOTF (Ontario Student Opportunity Trust Fund) guidelines whereby grant recipients must meet the financial need requirements: students must be deemed eligible to receive OSAP (Ontario Student Assistance Program) during the academic sessions in which the grant is awarded. Apply* to the Chair, Department of Geography, by June 1, October 1 or February 1. In your application, please include detailed information about your current financial situation.

8.3 Edward Blake Scholarship in Science

Awarded to a student in second or third year with an A average, enrolled in a program offered by the Department of Geography. This scholarship was created from a gift of the late Hon. Edward Blake, Chancellor of the University, 1876-1900. This award is presented to a geography student in alternate years.

8.4 Canadian Association of Geographers Award

This award is given to the most outstanding student graduating from an honours or major program in the Department of Geography.

8.5 William G. Dean Scholarship in Geography for Field Research

Awarded to one or more students enrolled in a specialist or major program in the Department of Geography for field research. Scholarship will be awarded on the basis of academic merit and financial need.

8.6 Geography Toronto Award

The University of Toronto Association of Geography Alumni (UTAGA) provides this award to a graduating student who has made an outstanding contribution to the life of the Geography Department. Award winners are individuals who have been extensively involved in the undertaking of extra-curricular activities targeted at fellow geography students, while at the same time achieving above average academic success.

8.7 The F. Kenneth Hare Scholarship in the Environment

Awarded to an outstanding student in their third or fourth year of study in either the Environmental Geography or Physical and Environmental Geography programs. Preference will be given to students registered in Trinity College. Financial need may be considered.

8.8 John Horner Award

Awarded to an undergraduate student in the Department of Geography based on academic merit. Financial need will also be considered.

8.9 Anne McMaster Grant

Awarded on the basis of financial need to a student in a Major or Specialist program in the Department of Geography, at the discretion of the Chair, for such costs as departmental field trips, field courses, professional experience courses, independent research expenses, etc. Academic merit may also be considered. Awarded three times a year. Please note that students do not have to be OSAP eligible in order to be considered. Apply* to the Chair, Department of Geography, by June 1, October 1, or February 1. In your application, please include detailed information about your current financial situation. The fund was established in honour of the retirement of Anne McMaster, former business officer, who provided over 27 years of outstanding service to the Department.

8.10 Anne McMaster OSOTF Grant

Awarded to a student in a Major or Specialist program in the Department of Geography, at the discretion of the Chair, for such costs as departmental field trips, field courses, professional experience courses, independent research expenses, etc. Financial need must be considered. Academic merit may also be considered. Awarded three times a year in compliance with OSOTF (Ontario Student Opportunity Trust Fund) guidelines whereby grant recipients must meet the financial need requirements: students must be deemed eligible to receive OSAP (Ontario Student Assistance Program) during the academic sessions in which the grant is awarded. Apply* to the Chair, Department of Geography, by June 1, October 1 or February 1. In your application, please include detailed information about your current financial situation.

8.11 Outstanding Undergraduate Research Award

UTAGA applauds and encourages those students who make the effort to undertake independent research at the undergraduate level. This award is presented by UTAGA to the most outstanding research project undertaken for GGR491Y, undergraduate thesis course.

8.12 Donald Putnam Scholarship

Awarded to a student graduating with a GPA of at least 3.50 over the last ten credits who has completed a Major or Specialist program offered by the Department. First consideration will be given to Woodsworth College students. If there are no Woodsworth College candidates then the Department will select the recipient. This scholarship was established in honour of the late Professor Donald Putnam, the Department's Head from 1951 to 1963.

8.13 Ben Shindman Scholarship

Awarded to a student who has completed their third year with an A average, and is enrolled in a Specialist or double Major program offered by the Department of Geography. The recipient must enrol in the fourth year of the program. This scholarship was created in honour of the late Benjamin Shindman, one of the Department's top students in the 1940s.

8.14 Sydney and Lucille Silver Scholarship

This award is given to a student with an A average, in the third year of a Specialist or double Major program in environmental studies. This scholarship was established by family members in honour of Mr. and Mrs. Silver's 50th wedding anniversary.

8.15 Griffith Taylor Memorial Award

Awarded to an outstanding student graduating from a four-year program with either a Major or Specialist in the Department of Geography, who has exhibited all-round excellence over the course of the program. This award is in honour of the late Griffith Taylor who founded the Department of Geography at the University of Toronto, and served as its head from 1935-1951.

8.16 Undergraduate Computer Applications Award

This award was created by UTAGA, and is presented to a senior student who has exhibited excellent scholarship incorporating computer applications.

8.17 Daniel Wilson Scholarship in Science (Geography/Geology)

Awarded to a student in second or third year with an A average, enrolled in a program offered by the Department of Geography. This scholarship was created in honour of the late Sir Daniel Wilson, President of University College, 1890-1892. This award is presented to a geography student in alternate years.

9 Where to go for further information about...

9.1 Undergraduate Courses and Programs

Undergraduate Counsellor: SS 5044; Tel. 416-978-6455; giesbrecht@geog.utoronto.ca
Associate Chair, Undergraduate: SS 5006; Tel. (416) 978-1587; boland@geog.utoronto.ca
until December 31, 2014
SS 5003; Tel. (416) 978-1590; lewis@geog.utoronto.ca
from January 1, 2015

9.2 Graduate Study in Geography or Planning

Geography Graduate Counsellor; SS 5045; Tel. 416-978-3377; finlayson@geog.utoronto.ca
Geography Graduate Coordinator; SS 5066; Tel. 416-978-8467; leslie@geog.utoronto.ca
Graduate Planning Program Administrator, SS 5053; Tel. (416) 946-0269; wright@geog.utoronto.ca
Director of Planning; SS 5062; Tel. 416 978-2974, hess@geog.utoronto.ca

9.3 Careers/Jobs in Geography

Undergraduate Bulletin Board (outside SS 5047), or the Career Centre (Koffler Student Services Centre, 214 College Street), Tel. 416 978-8000; www.careers.utoronto.ca

9.4 Scholarships and Awards

Student Awards Office (Koffler Student Services Centre, 214 College Street) and College Registrar's offices for College awards.
See also the Arts and Science website: www.artsci.utoronto.ca/current/undergraduate/undergraduate-scholarships

9.5 Sexual Harassment Office

40 Sussex Ave., 3rd floor, Tel. 416 978-3908; www.utoronto.ca/sho

9.6 Exchange Programs (Study Elsewhere)

www.artsci.utoronto.ca/languages/study-elsewhere

9.7 Personal Counselling, Learning Resources and Stress Management

Counselling and Psychological Services, Koffler Student Services Centre, 214 College Street, Room 111; Tel. 416 978-8070; www.caps.utoronto.ca

9.8 Help with a Disability

Special Services to Persons With a Disability, Robarts Library, 1st floor, 130 St. George Street; Tel. 416 978-8060; www.studentlife.utoronto.ca/accessibility.htm

9.9 Family Care Office

Information about child care, elder care, support groups, workshops and resource centre. Family Care Office, Koffler Student Services Centre, 214 College Street; Tel. 416 978-0951; www.library.utoronto.ca/equity/familycare

9.10 Help with Learning English and Other Services for International Students

International Student Centre, 33 St. George Street; Tel. 416 978-2564; www.isc.utoronto.ca

9.11 Help with Writing Skills

Consult your College Registrar's Office for information on writing skills labs and writing courses, and also view the following website: www.writing.utoronto.ca

9.12 Housing Service

Year round source of up-to-date residence information. Koffler Student Services Centre, 214 College Street, Tel. 416 978-8045.; <http://www.housing.utoronto.ca>

9.13 Health Service

Koffler Student Services Centre, 214 College St., 2nd Floor, 978-8030; www.healthservice.utoronto.ca

9.14 First Nations House

563 Spadina Ave., 3rd Floor, 978-8227; www.fnh.utoronto.ca

9.15 Counselling & Psychological Services

Koffler Student Services Centre, 214 College St., Ground Floor, 416 978-8070; www.caps.utoronto.ca

9.16 Sexual & Gender Diversity Office

21 Sussex Ave. suite 417 (corner of Huron St. and Sussex Ave), (416) 946-5624,
<http://www.sgdo.utoronto.ca/>
<http://www.lgbtq.utoronto.ca/Page158.aspx>

10 Important Dates in 2015-2016

2015 Fall Session

September 2015	
7	Labour Day; University closed
14	Classes begin in F and Y section code courses First day to request June 2016 graduation
20	Waiting lists for F and Y section code courses close at end of day
27	Last day to add and change meeting sections in F and Y section code courses Last day to enrol in Subject POST for 2015-2016 session
October 2015	
12	Thanksgiving holiday; University closed
16	Examination timetable for F section code courses posted
November 2015	
8	Last day to drop F section code courses from academic record and GPA. After this deadline a mark is recorded for each course; whether course work is completed or not (a 0/zero is assigned for incomplete work), and calculated into the GPA. Note that some courses cannot be cancelled using the SWS and students must contact their College or Department to do so; refer to the Registration Instructions Last day to add or remove a CR/NCR option for F section code courses
9-10	Fall break (no classes)
TBA	Arts & Science Fall Convocations. Please check "Ceremony Dates" at www.convocation.utoronto.ca .
December 2015	
8	Classes end in F section code courses and in Y section code courses (for Fall session) Deadline to request Late Withdrawal (LWD) from F section code courses at College Registrar's Office
9	Makeup Monday classes (at instructor's discretion) Last day to request June 2016 graduation
10	Study break
11-22	Final examinations in F section code courses, and some deferred exams from August 2015; term tests in Y section code courses
22	Last day to file a petition regarding term work in 2015 fall session F section courses
23	Winter holidays begin; University is closed December 23, 2015 to January 3, 2016 inclusive

2016 Winter Session

January 2016	
11	Classes in S section code courses begin and resume in Y section code courses
17	Waiting lists for S section code courses close at end of day
19	Last day to file a petition regarding a final examination in 2015 fall session F section courses
24	Last day to add and change meeting sections in S section code courses
February 2016	
12	Final Examination timetable for S and Y courses posted
15	Last day to drop Y section code courses from academic record and GPA. After this deadline a mark is recorded for each course, whether course work is completed or not (a 0/zero is assigned for incomplete work), and calculated into the GPA. Note that some courses cannot be cancelled using the SWS and students must contact their College or Department to do so; refer to the Registration Instructions. Last day to add or remove a CR/NCR option for Y section code courses
15	Family Day; University closed
16-19	Reading Week; some deferred examinations from December 2015
March 2016	
13	Last day to drop S section code courses from academic record and GPA. After this deadline a mark is recorded for each course, whether course work is completed or not (a 0/zero is assigned for incomplete work), and calculated into the GPA. Note that some courses cannot be cancelled using the SWS and students must contact their College or Department to do so; refer to the Registration Instructions. Last day to add or remove a CR/NCR option for S section code courses
25	Good Friday; University closed
April 2016	
8	Classes end in S and Y section code courses; deadline to request Late Withdrawal (LWD) from S and Y section code courses at College Registrar's Office
11	Study break
12-29	Final examinations in S and Y section code courses and some deferred examinations from December 2015
29	Last day to file a petition regarding term work for 2015-2016 fall/winter session S and Y section code courses
May 2016	
6	Last day to file a petition regarding a final examination for 2015-2016 fall/winter session S and Y section code courses
23	Victoria Day; University closed
June 2016	
TBA	Arts & Science Spring Convocation. Please check "Ceremony Dates" at www.convocation.utoronto.ca

ACADEMIC FEES REVERSAL DEADLINE Tuition fees information can be found at www.fees.utoronto.ca

11 Departmental Directory

St. George Campus

Sidney Smith Hall
100 St. George Street, Room 5047
Toronto, Ontario, M5S 3G3
Phone (416) 978-3375
Fax (416) 946-3886

Physical Geography Building

45 St. George Street
Toronto, Ontario

11.1 Faculty

Name	Telephone	Location	Email
Christian Abizaid	416 978-3373	SSH 5055	abizaid@geog.utoronto.ca
Alana Boland <i>Associate Chair, Undergraduate until December 31, 2014</i>	416 978-1587	SSH 5006	boland@geog.utoronto.ca
Donald Boyes	416 978-1585	SSH 5011	don.boyes@utoronto.ca
Jing Chen	416 978-7085	SSH 5058	chenj@geog.utoronto.ca
Deborah Cowen	416 946-0567	SSH 5033	deb.cowen@utoronto.ca
Amrita Daniere	416 978-3236	SSH 5063	amrita.daniere@utoronto.ca
Joe Desloges	416 978-3709	ESC 2124	desloges@geog.utoronto.ca
Richard DiFrancesco	416 978-2935	SSH 5025A	richard.difrancesco@utoronto.ca
Matt Farish	416 978-6671	SSH 5040	farish@geog.utoronto.ca
Emily Gilbert	416 978-0751	UC B301	emily.gilbert@utoronto.ca
Kanishka Goonewardena	416 978-2974	SSH 5062	kanishka@geog.utoronto.ca
Jason Hackworth	416 946-8764	SSH 5010	jason.hackworth@utoronto.ca
Danny Harvey	416 978-1588	SSH 5032	harvey@geog.utoronto.ca
Paul Hess	416 978-4955	SSH 5067	hess@geog.utoronto.ca
Deborah Leslie	416 978-8467	SSH 5066	leslie@geog.utoronto.ca
Robert Lewis <i>Associate Chair, Undergraduate from January 1, 2015</i>	416 978-1590	SSH 5003	lewis@geog.utoronto.ca
Jane Liu	416 978-1672	PGB 306	janejj.liu@utoronto.ca
Virginia Maclaren <i>Chair of Geography</i>	416 978-4977	SSH 5050A	maclaren@geog.utoronto.ca
Deborah McGregor	416 978-6591	SSH 5037	d.mcgregor@utoronto.ca

Name	Telephone	Location	Email
Scott Prudham	416 978-4975	SSH 5007	scott.prudham@utoronto.ca
Katharine Rankin	416 978-1592	SSH 5002	k.rankin@utoronto.ca
Susan Ruddick	416 978-1589	SSH 5059	ruddick@geog.utoronto.ca
Matti Siemiatycki	416 946-5145	SSH 5041	siemiatycki@geog.utoronto.ca
Rachel Silvey	416 978-6640	SSH 5036	silvey@geog.utoronto.ca
Neera Singh	416 971-2658	SSH 5023	neera.singh@utoronto.ca
Tat Smith	416 978-4638	ESC 3038	tat.smith@utoronto.ca
Sarah Wakefield	416 978-3653	UC 373	sarah.wakefield@utoronto.ca
Jun Zhang	416 978-2958	SSH 5025B	zhang@geog.utoronto.ca
Legend:			
SSH = Sidney Smith Hall, 100 St. George Street			
PGB = Physical Geography Building, 45 St. George Street			
ESC= Earth Sciences Centre, 33 Willcocks Street			
UC = University College, 15 King's College Circle			
For more information on Geography programs offered at University of Toronto at Mississauga (UTM) and at University of Toronto at Scarborough (UTSC):			
UTM: 905-569-4455. You may also visit their website at http://www.utm.utoronto.ca/geography/			
UTSC: 416-208-4811. You may also visit their website at http://www.utsc.utoronto.ca/geography/content/welcome			

11.2 Non-Academic Staff

11.2.1 Administration

Name/Title	Telephone	Location	Email
Yvonne Kenny <i>Assistant to the Chair</i>	416 978-1843	SSH 5051	kenny@geog.utoronto.ca
Nina Duras <i>Business Officer</i>	416 978-3376	SSH 5050	duras@geog.utoronto.ca
Benjamin Pottruff <i>Undergraduate Counsellor</i>	416 978-6455	SSH 5044	pottruff@geog.utoronto.ca
Mariange Beaudry <i>Undergraduate Assistant Events Coordinator</i>	416 946-3148	SSH 5047	mariange@geog.utoronto.ca
Jenny Jung <i>Receptionist</i>	416 978-3375	SSH 5047	mainoffice@geog.utoronto.ca
Jessica Finlayson <i>Graduate Counsellor</i>	416 978-3377	SSH 5045	finlayson@geog.utoronto.ca
Marija Wright <i>Planning Program Administrator</i>	416 946-0269	SSH5053	wright@geog.utoronto.ca

11.2.2 Cartography Office

Name/Title	Telephone	Location	Email
Byron Moldofsky <i>Manager</i>	416 978-3378	SSH 620A	byron@geog.utoronto.ca

11.2.3 Students/Alumni

Name	Telephone	Location	Email
Toronto Undergraduate Geography Society (TUGS)	416 978-2057	SSH 611	tugs@geog.utoronto.ca
University of Toronto Association of Geography Alumni (UTAGA)	416 946-3148	SSH 5047	utaga@geog.utoronto.ca