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1 Preface

This handbook outlines the basic degree requirements, financial support policy and other general information relevant to graduate studies in geography.

This handbook should be read in conjunction with the policies, regulations and guidelines outlined in the School of Graduate Studies Calendar available at <https://sgs.calendar.utoronto.ca/>.

This handbook was last revised on July 9, 2019.

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2 Sessional Dates

Fall 2019	
July 15	Registration for fall session begins
July 15	Course enrolment begins
August 5	Civic holiday (University closed)
August 23	Recommended tuition fee payment date to meet Fall registration deadline
September 3	Labour Day (University closed)
September 3-6	Orientation Week Activities
September 6	Submission deadline for May-August and July-August Summer session grades
September 9	Most formal graduate courses and seminars begin
September 11	Summer session grades available for viewing online in ACORN
September 13	Fall registration deadline; after this date a late registration fee will be assessed
September 16	Final date to submit PhD theses to SGS to avoid fees for the Fall session
September 23	Final date to add full-year and Fall session courses
September 27	Final date for receipt of degree recommendations and submission of any required theses for master's for Fall Convocation without fees being charged for the fall session
September 27	Final date to submit final PhD theses for Fall Convocation
September 30	Payment deadline to avoid service charges on unpaid Fall session tuition and fees, except for those who registered without payment due to a funding package, major award, stipend or TA income. Monthly service charges accrue starting October 15.
October 14	Thanksgiving Day (University closed)
October 28	Final date to drop fall session half or full courses without academic penalty
November	Fall Convocation – Information is posted at www.convocation.utoronto.ca
November 30	Payment deadline to avoid service charges on unpaid Winter session tuition and fees for those registered in both Fall and Winter sessions, except for those who registered without payment due to a funding package, major award, stipend or TA income. Monthly service charges accrue starting December 16.
December 20	Recommended tuition fee payment date to meet Winter registration deadline
December 23	University closed for winter break until January 3 inclusive
Winter 2020	
January 6	University reopens, most formal graduate courses and seminars begin
January 8	Submission deadline for Fall session grades
January 15	Final date to submit PhD theses without fee payment for Winter session
January 15	Fall session grades available for viewing online in ACORN
January 20	Final date for registration for students beginning program in Winter session
January 20	Final date to add Winter session courses

January 24	Final date for receipt of degree recommendations and submission of any required theses for master's degrees for March (in absentia) or June Convocation without being charged fees for the Winter session
January 24	Final date to submit final doctoral thesis for March in absentia convocation
January 31	Payment deadline to avoid service charges on unpaid Winter session tuition and fees for those beginning the program in the Winter session, except for those who registered without payment due to a funding package, major award, stipend or TA income. Monthly service charges accrue starting December 16.
February 17	Family Day (University closed)
February 24	Final date to drop full-year and winter courses without academic penalty
March	March graduation in absentia – Information is posted at www.convocation.utoronto.ca
April 10	Good Friday (University closed)
April 15	Winter grades due for students graduating in June 2020
April 17	Students recommended for convocation in June - Coursework must be completed and grades must be submitted for full-year and Winter session courses
April 17	Final date for receipt of degree recommendations and submission of any required theses for master's degrees for June Convocation
April 17	Final date for submission of final PhD theses for June Convocation
April 30	Payment deadline to avoid service charges on unpaid Fall and Winter session tuition for those who registered without payment due to a funding package, major award, stipend or TA income. Monthly service charges accrue starting May 15.
Summer 2020	
May 1	Final date for registration for students beginning program in Summer session
May 4	Most formal graduate courses begin (May-June or May-August courses)
May 4	Final date to enrol in May-June or May-August session courses
May 6	Submission deadline for Winter session grades (for students not graduating in June)
May 13	Full-year and Winter session grades available for viewing online in ACORN
May 18	Victoria Day (University closed)
May 22	Final date to drop May-June courses without academic penalty
June	Spring Convocation - Information is posted at www.convocation.utoronto.ca
June 15	Final date to drop May-August courses without academic penalty
July 1	Canada Day (University closed)
July 6	Most formal graduate courses begin (July-August courses)
July 6	Final date to enrol in July-August courses
July 10	Submission deadline for May-June Summer courses
July 13	Final date to drop July-August courses without academic penalty
July 15	May-June session grades available for viewing online in ACORN
August 3	Civic holiday (University closed)

3 About the Department

The University of Toronto's Department of Geography & Planning is one of the oldest and largest geography departments in North America. Founded in 1935, the department is now present on three University of Toronto campuses (downtown Toronto, Mississauga and Scarborough), and maintains a roster of approximately 250 graduate students. It has a faculty of more than sixty professors with a diverse range of research interests, and each faculty member is associated with several research areas. This concentration of scholarship within the Department of Geography and Planning allows for the maintenance of a very energetic and creative environment.

Our Graduate Programs include Masters and Doctoral level studies in several cognate areas within Geography including: Cultural and Historical Geography, Economic Geography, Environment and Resource Management, Social Geography, and Urban Geography, Spatial Analysis and Physical Geography. In addition, our graduate students have the opportunity to customize their studies through a number of collaborative specializations established with other units at the University of Toronto.

The tri-campus graduate program offers MA, MSc, and PhD degrees in Geography and MScPl and PhD degrees in Planning. Planning programs are described in a separate handbooks for the Program in Planning.

3.1 Our Commitment to Diversity

A strong commitment to diversity is a vital feature of the geography program. We are eager to reflect the increasing social diversity in our student population and faculty, and take pride in our efforts to bring a true diversity of perspectives on geography and related issues into our classrooms and other meeting places. We recognize that these objectives can be achieved in part through curriculum development, but are also greatly enhanced by recruitment strategies. The purpose of recruiting the best talent from a wide range of ethno-culturally diverse communities is not merely to broaden existing geography programs, but to enrich them substantively by creating an intellectual environment where diversity of opinions about geography may thrive. As such, our understanding of diversity remains not only ethno-cultural but also social and political. We therefore welcome students with diverse educational backgrounds and work experiences from both Canada and other countries of the world. We especially welcome applications from racialized persons / persons of colour, women, Indigenous / Aboriginal People of North America, persons with disabilities, LGBTQ persons, and others who may contribute to the further diversification of ideas.

3.2 Fields of Specialization within Geography

The Department's fields of specialization, and major sub-fields within geography, are listed below. The Department has regional interests in Latin America, East and South Asia, Europe, the USA and Canada.

3.2.1 Physical Geography and Natural Systems

Climate Modelling; Fluvial Geomorphology; Process Hydrology; Impacts of Climatic Change; Digital Terrain Analysis; Soil and Water Chemistry; Environmental Chemistry; Biogeochemical Modelling; Limnology.

3.2.2 Environmental Geography and Resource Management

Environmental Assessment; Natural Resource Policy; Urban Environmental Management; Water Waste Management and Recycling; Global Environmental Issues; Land Use In and Around Urban Areas; Energy Management; Sustainable Development.

3.2.3 Urban/Economic Geography

Industrial Location; Capital Theory and Technical Change in Regional Development; Regional Dynamics; Dynamic Global-Local Production Relations; Labour Markets; Canadian Industrial Development; Impacts of Technological Change; Population Analysis; Urban Growth and Change; Urban Systems; Housing and Housing Policy; Neighbourhood Change; Transportation Geography; Urban Landscapes; Canadian Urban Development; Transportation; Urban Environments; Inner Cities; Third World Cities.

3.2.4 Historical/Social/Cultural Geography

Historical Geography of Canada and the United States; Historical Urban Geography of Toronto and other North American cities; Historical Geography of Financial and Industrial Districts; Urban Social Geography; Social Policy and Political Theory; Housing; Feminist Geography; Homelessness; Community Development.

3.2.5 Spatial Analysis

Remote Sensing; Geographic Information Systems; Simulation Modelling.

3.3 Multidisciplinary Research Clusters within Geography

In an effort to continually monitor its direction and its social relevance, the Department has identified a series of research clusters that serve to link seemingly disparate elements of the Department in multidisciplinary areas. These research clusters include:

- Cities and everyday life;
- Climate processes and climate and carbon cycle modelling;
- Earth-surface processes and hydrology;
- Nature, society and environmental change;
- Paleoclimate and biogeography;
- Political ecology;
- Political spaces;
- Labour Geography;
- Innovation and economic spaces;
- Global cities;
- Critical Planning;
- Transportation

Each of these clusters has self-professed membership from a wide array of sub-fields within the Department. For further information, please consult the website at <http://geography.utoronto.ca/research/research-clusters/>.

3.4 The Graduate Office

The graduate office is located at St. George campus, on the 5th floor, Sidney Smith Hall (100 St. George St.) within the Department of Geography and Planning.

The **Graduate Administrator** is the first point of contact for geography graduate students. The Administrator is available to provide student services and to direct students to available resources, for example:

- Enrolment and registration issues;
- Funding and payment questions;
- Award application questions;
- Admission questions;
- Information on program requirements;

- Information on departmental and SGS policies and procedures;
- Liaising with SGS on behalf of students;
- Signatures (approvals);
- Advice and referral to resources available on campus to assist graduate students

The **Associate Chair Graduate** is responsible for management of academic matters related to the graduate program, including admissions, awards and curriculum. The Associate Chair is available to assist students with issues related to their academic program, for example:

- Supervision;
- Academic progress;
- Liaising with SGS on behalf of students for non-standard issues;
- Advice about resources available on campus to assist graduate students

The **Graduate Chair** is responsible for overall graduate policy and strategic planning direction for the graduate program.

The graduate office works closely with the Graduate Geography and Planning Student Society (GGAPSS) on graduate matters.

3.5 Campus Affiliation

As a tri-campus program, students have access to services and courses at all three campus. Newly admitted students are affiliated with the downtown St. George (STG) campus by default. Students who have supervisors at Mississauga (UTM) and Scarborough (UTSC) campuses may change their affiliation by completing the SGS campus affiliation form. Information about changing campus affiliation is forwarded in the summer to incoming students.

There are a number of benefits to affiliating with UTM or UTSC campuses, for example free shuttle bus and Mississauga Transit service (UTM only), access campus specific grants/awards, access to office or other shared space, and other resources. Students are encouraged to discuss campus affiliation with their supervisor when they start the program.

4 Departmental Resources for Students

4.1 Listservs

The department maintains several email listservs that are the primary method of communicating with students and faculty. All students will have their U of T email address subscribed to all lists at the start of each academic year.

Students can subscribe or unsubscribe by visiting <https://listserv.utoronto.ca> and clicking on the “Subscriber’s Corner” link (request a new password and register with your U of T email address).

Mandatory Listservs

All students will be subscribed to these lists in September. Students may not opt out.

Listserv address	Description
gradadmin@geog.utoronto.ca	All graduate students are subscribed. Used for official departmental announcements (policy, awards, registration, etc.). This list is moderated and only the graduate office can send messages.
everyone@geog.utoronto.ca	All graduate students, faculty and staff are subscribed. Used for departmental announcements which are relevant to all members of the department. This list is moderated by the chair (messages will be reviewed for approval).
grads@geog.utoronto.ca	All graduate students are subscribed. Used for messages from GGAPSS and unofficial departmental announcements from students and faculty. All members of the department can send messages to this list.
PLAmasters@geog.utoronto.ca	Only MSc PI students are subscribed. Used for departmental announcements relevant to MSc PI students. All members of the department can send messages to this list.
GGRmasters@geog.utoronto.ca	Only MSc and MA Geography students are subscribed. Used for departmental announcements relevant to master’s in geography students. All members of the department can send messages to this list.
PLAphd@geog.utoronto.ca	Only PhD Planning students are subscribed. Used for departmental announcements for PhD Planning students only. All members of the department can send messages to this list.
GGRphd@geog.utoronto.ca	Only PhD Geography students are subscribed. Used for departmental announcements for PhD Geography students only. All members of the department can send messages to this list.
PHYSGEOG-GGR-L@listserv.utoronto.ca	Physical Geography graduate students and faculty are subscribed. Used for departmental announcements for physical geographers. All members of the department can send messages to this list.

Optional Listservs

Students may subscribe to any of the optional lists.

Listserv address	Description
employment@geog.utoronto.ca	All graduate students are subscribed by default but may unsubscribe as above. Used for announcements about job postings (internal and external), internship or volunteer opportunities. All members of the department can send messages to this list.
political.spaces@geog.utoronto.ca	Listserv for the department's political spaces research cluster. Students must subscribe as described above. All members of the department can send messages to this list.
Social-political@geog.utoronto.ca	Used for announcements about social events/gatherings and political discussion items. Students must subscribe as described above. All members of the department can send messages to this list.
TRANSPORT-GEO-L@listserv.utoronto.ca	Info about transportation research, job opportunities, and events. To subscribe, send an email to listserv@listserv.utoronto.ca with the following message in the body: SUBSCRIBE TRANSPORT-GEO-L

4.2 Computer Accounts and Printing

Students will be assigned a username and password for use on departmental computers at St. George campus during orientation.

Printing in student labs is administered through the Graduate Geography and Planning Student Society (GGAPSS). Students will receive a free printing credit at the start of the year and additional credit can be added during the year by contacting a GGAPSS representative.

4.3 Office and Shared Space

All students in the Department are allocated shared office space at the beginning of each academic year. Office assignments will be communicated by email to students during orientation in September. Please visit the GGAPSS website at <https://ggapss.wordpress.com/services/space-productive/> for further information about graduate student space at St. George campus. A refundable key fob deposit of \$20 is required.

Students with supervisors at UTM or UTSC campuses may also have access to office space through their supervisor's home department.

The department also has several shared spaces that graduate students are welcome to use for studying and socializing.

- Student Lounge Spaces, SS5026 and SS619 – Furnished with sofas/chairs/tables for students to meet/study.
- Graduate Seminar Rooms, SS590 and 590A – Work/meeting rooms for graduate students with computer/AV tools to facilitate collaborative activities.
- Graduate Computer Labs, SS613 and SS616 – A list of software installed in the lab is available on the department's website.

Additional shared space may also be available at UTM and UTSC for student use.

4.4 Urban Design Lab

On the St. George Campus, the Graduate Student Computer and Urban Design Lab in room SS617 is available exclusively for graduate Geography and Planning courses and student research. A list of software installed in the

lab is available on the department's website. This is a combination room that may be used by graduate students at any time when not booked for courses.

4.5 Mail Room

Graduate students have dedicated mail folders for internal mail/return of assignments, etc. in the departmental mail room (SS5043). Mail folders are for internal drop off of items only – external mail should not be sent to the department.

4.6 Weekly Digest

At the start of each week, a Weekly Digest email is sent to all members of the department which includes announcements, newsworthy items and links to events of interest. Items for inclusion in the Weekly Digest can be sent to the main office by email at mainoffice@geog.utoronto.ca.

4.7 Information for New Students

The School of Graduate Studies (SGS) has important information for new students on their website at: <https://www.sgs.utoronto.ca/admissions/getting-started-as-a-new-student/>. This website has links to several resources, including:

- Orientation;
- Registration and enrolment information;
- Fees and funding information;
- How to obtain a T-card, UTORid, UTmail+;
- Housing resources;
- Resources for international students;
- Accessibility and health & wellness resources

5 Master's Degree Program Requirements

MA programs are those taken in all fields of human geography. MSc programs are those taken in physical geography, spatial information systems and some areas of environmental studies.

All MA students must complete the Human Geography Core Course (GGR1105H) and all MSc students must complete the Physical Geography Core Course (GGR1200H). Students have the option of completing a master's thesis or a major research paper (MRP).

Progress into the second session is dependent on achieving an overall B average in the first session and maintaining satisfactory progress as outlined in the SGS Calendar General Regulations. The department may recommend termination of a student's registration if they have failed to maintain satisfactory progress.

5.1 Master's Thesis Option

The thesis option is recommended for students who have a strong background in geography and who want to complete a significant research initiative. Students choosing this option should have a clear idea of the topic they would like to research. A thesis is encouraged for students who are planning on pursuing a PhD or jobs that require significant research experience.

5.1.1 Coursework

Students are required to complete 1.5 FCE (3 half-credit courses), distributed as follows:

- 0.5 FCE core course (GGR1105H for MA or GGR1200H for MSc);
- 0.5 FCE course in geography;
- 0.5 FCE course in any subject

Students enrolled in a collaborative specialization should consult section 7 for any additional requirements.

5.1.2 Research Proposal

Submission of a research proposal to their supervisor by March 1 of their first year. The proposal should be 2500 to 4000 words and include the following:

- Outline of the topic/research question;
- Literature review;
- Methodology
- Timeline for completion of research/data collection, writing and final defense of the thesis or major research paper

5.1.3 The Thesis

Students are required to complete a thesis (RST9999Y) which must be presented and defended at an oral examination. The thesis is generally not more than 26,000 words (typically up to 80 pages double-spaced), not including appendices and bibliography.

The thesis project will address a research question or set of questions. It involves the analysis and interpretation of data and outputs would include the thesis, but could also involve videos, policy reports and other forms of dissemination. A thesis may involve the use of data collected by the student or supervisor, including for example, interviews, ethnographic observations or survey data. Students may also be involved in the analysis of other forms of data, such as census data, archival materials, popular media reports, images or policy documents. The thesis

should include an introduction, a statement of research question(s) or problem, a literature review, a methodology section, and discussion of findings. The thesis should be seen as the basis of one or more publishable papers.

For MSc students, a thesis involves the collection or use, analysis and interpretation of data or theoretical research. The format of the thesis is to be determined in consultation between the student and supervisor. The MSc thesis must include a literature review followed by sections with an introduction, methodology, results, discussion and conclusion. Results and discussion sections may be merged where appropriate. The completed thesis should be seen as the basis of at least one publishable paper. Where a student and supervisor determine that more than one publishable paper could emerge from the MSc research, individual chapters with separate introduction, methodology, results/discussion and conclusion sections could be used.

Co-authorship: Multiple authorship scientific publications are common. The master's student is expected to have led the research, to have been the primary person to interpret data and to have written the thesis. For most scientific authorship conventions, the master's research should constitute the basis of a scholarly publication where the student would be considered the first author. A statement of scholarly attribution should be provided in the thesis, outlining the student's (and the supervisor's and any current or eventual co-author's) contributions in conceiving, planning and carrying out the research, as well as interpreting the data and writing up the research. Refer to the discussion of intellectual property at <https://www.sgs.utoronto.ca/policies-guidelines/ip-for-graduate-students-supervisors/>.

Evaluation: The thesis will be defended at an oral exam attended by the supervisor(s) and two additional faculty members, one of which must be from geography. The student must submit an exam request form at <https://geography.utoronto.ca/departmental-exam-request-form/> with the exam details a minimum of 2 weeks prior to the examination date. The graduate office will prepare an examination file that can be collected by the supervisor just before the exam, to be returned immediately following the exam.

The thesis must be formatted using the SGS formatting guidelines found at <https://www.sgs.utoronto.ca/academic-progress/program-completion/producing-your-thesis/>, and must be approved by the supervisor(s) prior to distribution to the examiners. The complete thesis (including all references, appendices, etc.) must be provided to the all examiners and the graduate office a minimum of 2 weeks prior to the exam date (or earlier, up to 4 weeks prior, at the discretion of the exam committee). If the thesis is not received 2 weeks prior to the exam, the graduate office will cancel the exam. The graduate office will prepare the examination file that can be collected by the supervisor just before the exam to be returned immediately following the exam.

The exam must be scheduled for 2 hours and the student must attend the exam on campus. The student may give a short presentation of about 15 minutes summarizing the major contributions of the thesis. This presentation will be followed by questions from the committee members. At the end of the examination, the student will leave the room while the committee reaches a decision. The committee will recommend (or not) that the thesis be accepted and may require revisions prior to submission to the department and the School of Graduate Studies.

Submission: Once any final revisions or modifications have been made and confirmed in writing by the supervisor(s), the final thesis must be submitted electronically to SGS and to the department. Information on formatting, electronic submission and copyright is available at <https://www.sgs.utoronto.ca/academic-progress/program-completion/producing-your-thesis/>.

5.2 Major Research Paper Option

The major research paper (MRP) is recommended for students who would like to place more emphasis on coursework, for example, in the case of students who have not taken many courses in geography at the undergraduate level. An MRP may be an option for students who plan to work professionally in their field rather than pursue a PhD.

5.2.1 Coursework

Students are required to complete 3.0 FCE (6 half-credit courses), distributed as follows:

- 0.5 FCE core course (GGR1105H for MA or GGR1200H for MSc);
- 1.5 FCE courses in geography
- 0.5 FCE course which must be taken outside of geography;
- 0.5 FCE in any subject

Students enrolled in a collaborative specialization should consult section 7 for any additional requirements.

5.2.2 Research Proposal

Submission of a research proposal to their supervisor by March 1 of their first year. The proposal should be 2500 to 4000 words and include the following:

- Outline of the topic/research question;
- Literature review;
- Methodology
- Timeline for completion of research/data collection, writing and final defense of the thesis or major research paper

5.2.3 The Major Research Paper

The thesis is generally not more than 13,000 words (typically up to 40 pages double-spaced), not including appendices and bibliography. The MRP will address a research question or set of questions and can take different forms, including:

- A literature review that offers summary, synthesis and critique and draws conclusions without the collection and use of primary data;
- A small scale or exploratory study that is similar to the thesis, except that it is smaller in scope. As with a thesis, this could involve use of data collected by the student or supervisor (such as interview or ethnographic data). Students may also be involved in the analysis of other forms of data, such as census data, archival materials, popular media reports, images or policy documents. The project will involve the analysis and interpretation of data and outputs would include the major research paper, but in addition could include videos, policy reports and other forms of dissemination.

MSc students do not commonly do the MRP option; the majority of students complete a thesis. If a student wanted to pursue the MRP option the structure would be similar to the MA, but students are expected to establish expectations and work out the format with their supervisor.

Co-authorship: Multiple authorship scientific publications are common. The master's student is expected to have led the research, to have been the primary person to interpret data and to have written the thesis. For most scientific authorship conventions, the master's research should constitute the basis of a scholarly publication where the student would be considered the first author. A statement of scholarly attribution should be provided in the thesis, outlining the student's (and the supervisor's and any current or eventual co-author's) contributions in conceiving, planning and carrying out the research, as well as interpreting the data and writing up the research. Refer to the discussion of intellectual property at <https://www.sgs.utoronto.ca/policies-guidelines/ip-for-graduate-students-supervisors/>.

Evaluation: The MRP will be read by the supervisor(s) and a second reader who is a faculty member from geography and will be discussed at an MRP meeting. The student must submit an exam request form at <https://geography.utoronto.ca/departamental-exam-request-form/> with the meeting details a minimum of 2 weeks

prior to the examination date. The graduate office will prepare an examination file that can be collected by the supervisor just before the exam, to be returned immediately following the exam.

Students should follow the same guidelines on formatting and copyright for the thesis available at <https://www.sgs.utoronto.ca/academic-progress/program-completion/producing-your-thesis/>. The MRP must be provided to the supervisor(s) and second reader a minimum of 2 weeks prior to a scheduled meeting (or earlier, up to 4 weeks prior, at the discretion of the readers). If the MRP is not received, the graduate office will cancel the meeting. At the meeting of the supervisor(s), second reader and student, the student will be given the opportunity to present the work (15 minutes maximum) and to discuss the strengths and weaknesses of the draft paper. The total meeting time will be up to one hour. The supervisor(s) and second reader will then jointly identify any revisions required.

Submission: Once any final revisions or modifications have been made and confirmed in writing by the supervisor(s), an electronic copy of the final research paper must be submitted to the department.

5.3 Timeline to Completion

Master’s degree programs usually take one to two calendar years to complete; the average time to completion is 1.7 years. The maximum time limit is three years.

All coursework should be completed within 8 months of initial registration. Time taken to complete the research and writing of the thesis or MRP varies depending on numerous factors, including whether the research requires ethics approval, conducting interviews or gaining permission to access archival materials, and whether the research involves extensive fieldwork or lengthy experiments. The timeline below is a guide for completing within the 1 year that the program is funded. Students can register in a second year as necessary to continue research and writing activities.

Dates	Tasks
September to April	Coursework
January to April	Submit a research proposal to supervisor (no later than March 1). Ethics approval should be obtained if necessary. Research
May to August	Research Writing Defense and final submission of thesis/MRP.

5.4 Annual Reports

Students who register in a second year and beyond are required to meet with their supervisor by the end of September to review their activities over the summer and set out a timeline for the year. A report form must be completed at this meeting and submitted to the graduate office.

6 PhD Program Requirements

PhD students work closely with a faculty supervisor, who is selected by the student in consultation with the Associate Chair, Graduate at the time of admission. The student and the faculty supervisor then select a committee of faculty members (the Supervisory Committee, see Section 8.2) with related research interests.

6.1 Registration and Residence

The PhD program is a full-time program. Students register annually until all degree requirements have been fulfilled. Full SGS registration policies can be found in the SGS Calendar General Regulations.

Students must complete two years in residence at the Department. Residence requires that students must be on campus full-time and consequently in such geographical proximity to be able to participate fully in all activities associated with the program. Residence provides students with an opportunity to become immersed in the intellectual environment of the University. Exceptions to the residence requirement must be approved by the Associate Chair.

6.2 Good Academic Standing and Satisfactory Academic Progress

Graduate students are required to remain in good standing in their programs and they are required to continually make satisfactory progress toward the completion of their degree requirements. This includes the requirement of minimum grade performance in course work, the successful passage of written and oral examinations among other degree requirements and the speed and timeliness of progression through degree requirements as assessed by the supervisory committee at the annual progress meeting.

Failure to maintain good academic standing or satisfactory progress may result in various sanctions, including ineligibility for fellowships or termination of registration.

6.3 Timeline to Completion

The average time to completion of the PhD program in Geography & Planning as of 2018 was 5.7 years. The School of Graduate Studies requires that the thesis be submitted within six years of initial registration in the program however extensions beyond six years can be requested.

Time taken to complete the PhD varies depending on the time required to complete the various stages of the program, such as ethics approval, conducting interviews or gaining permission to access archival materials, if research involves extensive fieldwork or lengthy experiments. The timeline below is a guide for completing within the 4 years that the program is funded. Students can register beyond 4 years as necessary to continue research and writing activities.

Dates	Tasks
Year 1 (September to April)	Coursework
Year 1 (January to June)	Form the supervisory committee (See section 8.2) Identify areas of concentration and prepare a draft reading list for comprehensive exam
Year 1 (May to June)	Annual progress meeting Present draft reading list to supervisory committee for comprehensive exam
Year 1 – 2 (June to December)	Comprehensive exam

Year 2	Annual progress meeting Proposal exam (no later than Sept of year 3)
Year 2-3	Research, data collection, writing Annual progress meeting
Year 4	Annual progress meeting Research, data collection, writing Departmental and SGS defense exams

6.4 Coursework

Students studying in the fields of **Physical Geography and Spatial Analysis** must take a minimum of 1.5 FCE (3 half-credit courses) to be completed by the end of the first year, distributed as follows:

- 0.5 FCE core course GGR1200H (students who have taken the course at the master’s level may take an alternate course, approved by their supervisor and the Associate Chair)
- 0.5 FCE in geography
- 0.5 FCE in any subject

Human Geography students must take a minimum of 3.0 FCE (6 half-credit courses), a minimum of 2.0 FCE of coursework must be completed by the end of the first year, distributed as follows:

- 0.5 FCE core course GGR1110H
- 1.0 FCE geography courses
- 0.5 FCE must be taken outside of geography
- 1.0 FCE courses in any subject

PhD students who enter the program from a bachelor’s degree (directly-entry) must complete 1.5 FCE in addition to the normal minimum doctoral course work requirements.

Students who have enrolled in collaborative programs must consult the Collaborative Specializations section of this handbook (section 7) as their coursework requirements may vary from the requirements listed below.

6.5 Annual Progress Reports

SGS requires that a progress review meeting is held at least once per academic year (or more often as required). In no case should the supervisory committee go more than 12-14 months without holding a meeting. At the progress review meeting the Supervisory Committee will assess progress and plans for the following year and provide feedback on the annual progress report, which must be submitted to the graduate office for review by the Associate Chair, Graduate no later than July 1. The report is recorded in the student’s departmental and Acorn records. It is the responsibility of the student to schedule progress report meetings.

For the first progress meeting (normally held between early April to late June in year 1), the student should fill out the annual progress report form and bring a draft comprehensive reading list for discussion to the meeting. The timeline for writing the comprehensive exam should be established at this meeting. The student should also include 2-3 paragraphs on the proposed thesis area or topic.

Annual reports for each subsequent year should take place within 12-14 months of the last meeting. The annual progress meeting can be combined with other meetings (such as comprehensive, proposal or thesis exams). The annual report in years 2 and higher should include a list of activities undertaken in the past year, such as publications, courses, conference presentations, teacher training activities, professional development activities and progress on the dissertation (data collection, number of interviews completed and transcribed, document analysis undertaken, chapters completed, etc.). Progress reports can also be accompanied by materials such as

draft questionnaires and interview guides, initial tabulations and analysis of results, and chapter summaries. The student should also construct a timeline for work to be completed and activities to be undertaken in the following year.

If a Supervisory Committee reports that a student’s progress is unsatisfactory in each of two consecutive meetings, various sanctions may be recommended, including ineligibility for fellowships or termination of registration. A student who, through their own neglect, fails to have a meeting within 12-14 months of their last meeting will be considered to have received an unsatisfactory progress report from the committee.

6.6 PhD Comprehensive Examination

Students will take a written and oral PhD Comprehensive Examination administered by the supervisory committee between June of year one and no later than December of year two. The examination requirements are slightly different for human geographers than they are for physical geographers reflecting the different needs of the discipline. The purpose of the exam is to ascertain whether a student has obtained an adequate knowledge base to continue in the PhD program; to ascertain any knowledge gaps and suggest remedial action; and to provide a student with the opportunity to get a broad perspective on their chosen field of study. The scope and three (human geography) or four (physical geography) areas of concentration of the examination are to be jointly determined by the supervisory committee and the student. They are to be laid out in the draft comprehensive reading list and are to be confirmed in the first progress meeting. It is the responsibility of the supervisory committee to review and approve the draft reading list by a deadline established jointly by the supervisor and student. The scope of the exam cannot be changed after this stage.

The student should seek the advice of all committee members in preparing for the comprehensive examination. In consultation with the supervisor, the student should compile an appropriate draft reading list for each area of concentration by June of year one. The draft reading list should be circulated to all committee members for their comments and should form the basis of the examination. Normally, the total number of readings is approximately 100, but may be shorter or longer depending on the number of books included in the list. Students may wish to consider sub-dividing each area of concentration into 2-4 themes and should include a summary of what they see as the major issues covered in each area.

The supervisor is responsible for preparing the examination paper on the basis of input received from the committee members. The detailed instructions should be finalized in consultation with the student and committee members.

6.6.1 Exam Timeline

Dates	Tasks
Year 1 (January to April)	Assemble a supervisory committee
Year 1 (January to June)	Identify areas of concentration and prepare a draft reading list
Year 1 (no later than May-June)	Present a draft reading list to the supervisory committee for the first progress meeting
Year 1 – 2	Comprehensive exam to take place between June year 1 to December year 2. <ul style="list-style-type: none"> • <i>2 months prior to exam:</i> Establish a date for supervisory committee’s approval of the final reading list • <i>1 month prior to exam:</i> Student to schedule the exam and inform the graduate office of the date • <i>Within 3 months after the exam:</i> All conditions must be satisfied (for conditional pass)

	<ul style="list-style-type: none">• <i>Witin 6 months after the exam:</i> If the outcome of the exam is a fail, the exam must be repeated.
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6.6.2 Exam Format

For human geographers, the exam will cover three areas of concentration and will have three questions in each area. For physical geographers, the exam will have four areas of concentration with two questions in each area. In both cases, the student must answer one question from each area of concentration. The questions will be based on the reading list and may not extend into material not covered by the reading list. The PhD examination is comprised of a written section and an oral section.

- **One-Day Examination:** The student writes the exam over eight hours in a closed room on campus. The examination is open book and internet access is not permitted. Citations should be included from the comprehensive exam reading list, where relevant. These can be cited in text, i.e. (Harvey, 2008). The expected length of each of the three answers for human geographers is 2000-2500 words and the expected length of each of the four answers for physical geographers is 1500-2000 words.
- **Two-Day Examination:** The student writes the examination over two periods, amounting to eight hours in total, at least one day apart. All other conditions for the exam are the same as the one-day examination.
- **Five-Day Examination:** The student writes the exam over a five day period (including weekend days if the exam period includes a weekend) either on or off-campus. The examination is due at the same time of day it is collected by the student (e.g. an exam that starts at 9am on a Thursday will be due at 9am on the following Tuesday). It is expected that students will cite their work, citations will be drawn exclusively or primarily from the reading list. There is no need to attach a list of references for books or articles included in the examination reading list. The few, if any, additional references to works cited that are not on the reading list can be attached to the end of each answer. Responses will be more in-depth than the one day exam. The expected length of each response is 3500-4500 words for human geographers and 2500-3500 words for physical geographers (not including the list of references/bibliography).

The written examination should be submitted electronically by the student to all committee members and the graduate office by the due date and time. The student should ask the committee members whether they would also like to receive a paper copy and, if so, the student is responsible for making a copy and providing it to the faculty member as soon as possible.

The oral examination (with the full examination committee) should take place not later than one week following the submission of the written exam. The exam must be scheduled for 2 hours and the student must attend the exam on campus. It is the responsibility of the student to arrange for a date, time and room for the oral examination. The student must submit an exam request form at <https://geography.utoronto.ca/departamental-exam-request-form/> with the exam details a minimum of 2 weeks prior to the examination date. The graduate office will prepare an examination file which must be returned immediately following the exam.

6.6.3 Exam Results

At the time of the oral examination, the committee should base its evaluation of the student on the following criteria:

- The quality of the written responses: mastery, coverage, and communicative clarity for all questions on the examination;
- The quality of the oral defense of written responses and to questions not answered in writing: in terms of capturing the essence of the questions posed; ability to address the concerns raised and to deliver reasoned answers to legitimate criticisms;
- Oral responses to any questions related to the scope of the exam.

The supervisor should ensure that each committee member is satisfied with the answers to questions that he or she submitted for the examination. The outcome of the comprehensive exam is one of the following:

- Pass
- Conditional Pass. Student must satisfy conditions specified by the exam committee within one month, subject to final approval of the committee or a subset of the committee, which must include the supervisor(s). Failure to satisfy conditions by this date shall result in a failure of the exam. Conditions typically imposed for a conditional pass can include re-writing one or more questions or clarifying all or part of an oral answer in writing.
- Fail. If this is the first failure, the student can repeat the exam within six months. The department will recommend termination of a student's graduate program if the student fails the repeat exam.

6.7 Research Proposal

The research proposal should be prepared when the student has settled on a research topic; completed a preliminary exploration of the sources; and identified the problem and defined a research strategy. Ideally, the research proposal should take the form of a paper of about twenty to forty pages in length which includes a statement of the problem, research questions, a discussion and literature review of the research context in which it is set, research objectives or hypotheses, a brief outline of the data sources and methods, a draft survey or guiding questions for interviews (where appropriate) and a suggested timetable for completion. There should be a discussion of methods and methodology that makes reference to the literature on methodology. The proposal should provide a rationale for the choice of methods and discuss any ethical issues stemming from the research (if appropriate). The research proposal should be defended prior to extensive research. It should not constitute a draft of the final thesis.

A Research Proposal must be submitted and defended before the supervisory committee at the research proposal examination. The committee will advise the student on the acceptability of the proposal and will decide on any further steps to be taken in shaping the dissertation research project. The outcome of the proposal exam is one of the following:

- Pass
- Conditional Pass. Student must satisfy conditions specified by the supervisory committee (within three months) subject to final approval of the committee or a subset of the committee, which must include the supervisor(s). Failure to satisfy conditions by this date shall result in failure of the exam.
- Fail. The student must repeat the exam within six months.

The conditions will be attached to the research proposal examination form and typically include requests for revisions to theory and methodology. Examples of requested revisions might include additional reading on theory, reconceptualization of the theoretical approach, or additional research into the feasibility or appropriateness of the methodology. To keep on track for time-to-completion the department recommends the research proposal be defended by June of year two and no later than September of year three. Normally, all required coursework will have been completed by the time of the research proposal exam but in some cases the research proposal can be presented earlier with the agreement of the supervisory committee.

It is the responsibility of the student to arrange for a date, time and room for the examination and to provide this information to the graduate office. The student must submit an exam request form at <https://geography.utoronto.ca/departamental-exam-request-form/> with the exam details a minimum of 2 weeks prior to the examination date. The exam must be scheduled for 2 hours and the student must attend the exam on campus. The graduate office will prepare the examination file that can be collected just before the exam and returned immediately following the exam.

6.8 PhD Candidacy

When all requirements, exclusive of the thesis, have been met a student has achieved PhD Candidacy. The department requires students to achieve candidacy by the end of year two. School of Graduate Studies policy requires that candidacy is achieved no later than the end of year three. Students who have not achieved candidacy by the end of year three will not be permitted to register in future sessions unless an extension has been approved.

6.9 The Thesis

The thesis shall constitute a significant contribution to the knowledge of the field and must be based on original research conducted while registered for the PhD program. The topic for the thesis will have been approved at the proposal defense.

The thesis may take one of two forms. The traditional form is a manuscript thesis. An alternative form is the paper thesis.

The paper thesis will normally consist of a minimum of three journal articles considered publishable in, or that have been published in, good quality journals. The journal articles must meet four criteria, as determined by the supervisory committee:

1. The student is listed as the first or sole author of the paper when submitted for publication.
2. The student has done the following: had a primary or significant role in conceptualizing the paper, designing the methodology, collecting and analyzing data.
3. The student wrote the first draft, and revised later drafts after feedback from the supervisor, committee members or co-authors.
4. The paper is truly part of the dissertation project (i.e. it would not have been written if not for the student's dissertation and cannot count toward anyone else's dissertation project).

It is recommended that the student and supervisor discuss these criteria and the expectations for authorship of the papers as early as possible and no later than the proposal examination.

Both types of theses should be based on a coherent topic with an introduction presenting the general theme of the research and a conclusion summarizing and integrating the major findings. In the paper thesis, it may be appropriate to pull out common elements of the papers (e.g. methodology or literature review) into a separate chapter. Pagination should be continuous for both types of theses; there should be a common table of contents, appendices as need, and the thesis should have an integrated bibliography.

Information on thesis formatting, copyrighting, etc. is available from the School of Graduate Studies website at <https://www.sgs.utoronto.ca/academic-progress/program-completion/producing-your-thesis/>.

6.10 Departmental Thesis Examination

The completed PhD thesis will be examined by the supervisory committee in a Departmental Thesis Examination. The student must submit an exam request form at <https://geography.utoronto.ca/departamental-exam-request-form/> with the exam details a minimum of 2 weeks prior to the examination date. The graduate office will prepare an examination file that can be collected by the supervisor just before the exam, to be returned immediately following the exam.

The thesis must be formatted using the SGS formatting guidelines found at <https://www.sgs.utoronto.ca/academic-progress/program-completion/producing-your-thesis/> and must be approved by the supervisor(s) prior to distribution to the examiners. The complete thesis (including all references,

appendices, etc.) must be provided to the all examiners and the graduate office a minimum of 2 weeks prior to the exam date (or earlier, up to 4 weeks prior, at the discretion of the exam committee).

The exam must be scheduled for 2 hours and the student must attend the exam on campus. The student may give a short presentation of about 15 minutes summarizing the major contributions of the thesis. This presentation will be followed by questions from the committee members. At the end of the examination, the student will leave the room while the committee reaches a decision. The committee will recommend (or not) that the thesis be accepted and may require revisions prior to submission to the department for the SGS Final Oral Examination.

6.11 School of Graduate Studied Final Oral Exam

A Final Oral Examination Committee will conduct the Final Oral Examination (FOE). The examination committee may include no more than three members of the Supervisory Committee (including the supervisor/co-supervisor) and at least two examiners who have not been closely involved in the supervision of the thesis. Eligible for inclusion in the latter group are the external appraiser (in person or by audio/video connection), members of the geography graduate faculty who have not read the thesis, and members of the graduate faculty of other departments, centres, or institutes of the University who have not read the thesis. A quorum is four voting members (at least one member of the supervisory committee and two external examiners) are required for the exam to proceed. The departmental recommendation is that the committee include six voting members, including at least three external examiners. The School of Graduate Studies must approve the composition of the FOE committee.

The School of Graduate Studies, on the recommendation of the Associate Chair, Graduate, appoints the external appraiser. The external appraiser must:

- Be a recognized expert on the subject of the thesis and should be external to the University of Toronto;
- Be an Associate or Full Professor at their home institution;
- Have an arms-length relationship with both the candidate and the supervisor;
- Receive a copy of the thesis (from the graduate office) at least six weeks prior to the exam.

Scheduling the Final Oral Examination begins a minimum of seven weeks prior to the proposed examination date. Contact the graduate office for information about the process to request this exam. Detailed rules for the submission of the dissertation, the appointment of an external examiner, the exam procedures and steps to be taken after the exam are set out in the SGS Guidelines for the PhD Final Oral Examination available on the SGS website at <https://www.sgs.utoronto.ca/academic-progress/program-completion/doctoral-examinations-schedule/>.

Once any final revisions or modifications have been made, the final thesis must be submitted to SGS. Information on formatting, electronic submission, and copyright is available from the School of Graduate Studies website at <https://www.sgs.utoronto.ca/academic-progress/program-completion/producing-your-thesis/>.

6.12 PhD Final Year Fees

Academic fees for doctoral candidates in the final year of their program are pro-rated based on the twelve-month academic year. Incidental fees are charged on a sessional (term) basis. A Fee Schedule is available from the Student Accounts website at <http://www.fees.utoronto.ca/sessions.htm>.

The month-to-month fee schedule does not apply to reinstated students. Students who have been reinstated will have received a notice from the School of Graduate Studies stating the terms of his or her reinstatement, along with the total amount owing for the reinstatement.

International students may be eligible for a partial refund of their UHIP. Please note that there are deadlines for such refunds, and students should contact the Centre for International Experience for information on eligibility.

7 Collaborative Specializations

In addition to degree programs, the department is a participating member of several Collaborative Specializations. These innovative programs emerge from cooperation between several units, providing students with a broader base from which to explore a novel interdisciplinary area or special development in a particular discipline, to complement their degree studies.

Collaborative Specializations provide a structured program of study, including appropriate graduate supervision, courses, and seminars. Students may indicate their interest in admission to a Collaborative Specialization on their application for graduate studies, however most units offering a Collaborative Specialization require that students submit a separate application and may have additional admission requirements. Please consult the offering unit's website for admission requirements.

All degree requirements of both the degree program and the Collaborative Specialization must be completed. The thesis/MRP must be on a topic related to the specialization. Upon successful completion of both degree and collaborative specialization requirements, students receive a notation "Completed Collaborative Specialization in (Specialization Name) on their transcript and an official parchment from the School of Graduate Studies.

7.1 Community Development (MA)

The Collaborative Specialization in Community Development provides students with a multidisciplinary graduate education in community development. Community development involves working with community members and groups to effect positive change in the social, economic, organizational, or physical structures of a community that improve both the welfare of community members and the community's ability to direct its future.

Program	Requirements	Total FCE
Master's Thesis	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE UCS1000H • 0.5 FCE elective in geography from an approved CD list • 0.5 FCE elective outside geography from an approved CD list • Participation in a non-credit coordinating seminar 	2.0 FCE
Master's MRP	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE USC1000H • 1.5 FCE electives in geography, one of which must be from an approved CD list • 0.5 FCE elective outside geography from an approved CD list • Participation in a non-credit coordinating seminar 	3.0 FCE

Web: www.dlsph.utoronto.ca/program/collaborative-specialization-in-community-development-cdcp

Email: blake.poland@utoronto.ca

7.2 Contemporary East and Southeast Asian Studies (MA)

The Collaborative Master's Specialization in Contemporary East and Southeast Asian Studies (CESEAS) is designed to provide graduates with advanced training in a particular discipline and in the historical and social science studies of modern East and Southeast Asia. The major topics of emphasis are political economy, modern and contemporary social history, international relations, gender, political and social change, economic development, and cultural studies. The collaborative specialization contributes to the development of an integrated and interdisciplinary research community in Contemporary East and Southeast Asian Studies at the University.

Program	Requirements	Total FCE
Master's Thesis	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 1.0 FCE ASI1000Y • 0.5 FCE elective in geography in an Asia-related topic • A working knowledge of an East Asian or Southeast Asian language as needed. 	2.0 FCE
Master's MRP	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 1.0 FCE ASI1000Y • 0.5 FCE elective in geography in an Asia-related topic • 1.0 FCE electives in geography • A working knowledge of an East Asian or Southeast Asian language as needed. 	3.0 FCE

Web: <https://munkschool.utoronto.ca/ai-maps>

Email: asiapacific.ma@utoronto.ca

7.3 Development, Policy and Power (MA)

The Collaborative Specialization in Development Policy and Power is designed to provide master's students with a critical and historicized understanding of the nature of some of the main policy debates within the field of development. The understandings include the changing evolution of power dynamics within particular development policy domains over time at the global, national, and local levels of analysis, the role of the power struggles over development policy making and implementation that ensue from these power dynamics, and the ways in which these power struggles pose severe challenges to the institutionalization of policy domains that are equitable and rights oriented.

Students will be immersed in thematic discussions around development policy fields such as: trade and financialization; agriculture and land struggles; environmental protection; health inequity; displacement, immigration and citizenship; aid, taxation, and (illicit) financial flows; race, indigenous, and gender struggles; political economy of knowledge production, governance and the exercise of state power; resistance and popular mobilization; and neoliberal globalization and corporate power writ large.

Program	Requirements	Total FCE
Master's Thesis	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE IDS1000H • 0.5 FCE elective in geography • Participate regularly and actively in the Seminar Series SRM3333H 	1.5 FCE coursework plus 0.5 FCE Seminar Series
Master's MRP	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE FCE IDS1000H • 1.5 FCE electives in geography • 0.5 FCE electives in any subject • Participate regularly and actively in the Seminar Series SRM3333H 	3.0 FCE coursework plus 0.5 FCE Seminar Series

Web: www.utschool.utoronto.ca/ccds

Email: ccds-cs-ma@utschool.utoronto.ca

7.4 Diaspora and Transnational Studies (MA, PhD)

Diaspora in contemporary thought involves the shifting relations between homelands and host nations from the perspective of those who have moved, whether voluntarily or not. Diaspora emphasizes the inescapable lived translocal experiences of many migrant communities that exceed the boundaries of the nation-state. Questions of

nostalgia, of the dynamics of co-ethnic identification, of the politics of homeland and host nation, and of the inter-generational shifts in responses to all these are central to studies of diaspora.

Transnationalism, on the other hand, focuses on flows and counterflows and the multistrated connections to which they give rise. It encompasses in its ambit not just the movement of people but also concepts of citizenship and multinational governance, the resources of information technology, and the realities of the global marketplace, among others.

Taken together, the two concepts of diaspora and transnationalism enable our understanding of the complex realities of vast movements of people, goods, ideas, images, technologies, and finance in the world today.

This collaborative specialization is designed to bring together both social science and humanities perspectives to augment our existing tri-campus undergraduate program and to contribute to increased research collaboration between participants in the collaborative specialization.

Program	Requirements	Total FCE
Master's Thesis	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE DTS1000H • 0.5 FCE DTS topics course (topic varies each year) • 0.5 FCE elective in geography 	2.0 FCE
Master's MRP	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE DTS1000H • 0.5 FCE DTS topics course (topic varies each year) • 1.5 FCE electives in geography 	3.0 FCE
PhD Human Geography	<ul style="list-style-type: none"> • 0.5 FCE GGR1110H • 0.5 FCE DTS1000H • 0.5 FCE DTS topics course (topic varies each year) • 1.0 FCE electives in geography • 0.5 FCE electives in any subject 	3.0 FCE

Web: <http://cdts.utoronto.ca>

Email: cdts@utoronto.ca

7.5 Environment and Health (MA, MSc, PhD)

The health implications of human impacts on the environment cover a very broad range of issues including air and water quality, contaminated land, and shifts in the distribution of vector-borne diseases (related to changes in land use, climate, and human migration). The EH Collaborative Specialization provides students in the health sciences with a broad environmental perspective while at the same time exposes environmental studies students to the health implications of environmental quality. This program may also be of interest to students who are concerned with sociological and policy approaches to the field of environment and health.

Program	Requirements	Total FCE
Master's Thesis	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H or GGR1200H • 0.5 FCE ENV4001H • 0.5 FCE elective in environment (must be a geography course) 	1.5 FCE
Master's MRP	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H or GGR1200H • 0.5 FCE ENV4001H • 1.5 FCE electives in geography • 0.5 FCE elective in environment 	3.0 FCE
PhD Physical Geography	<ul style="list-style-type: none"> • 0.5 FCE GGR1200H 	2.0 FCE

Program	Requirements	Total FCE
	<ul style="list-style-type: none"> • 0.5 FCE ENV4001H • 0.5 FCE elective in geography • 0.5 FCE elective in environment • Presentation at Seminar Series or Research Day 	
PhD Human Geography	<ul style="list-style-type: none"> • 0.5 FCE GGR1110H • 0.5 FCE ENV4001H • 1.0 FCE electives in geography • 0.5 FCE electives in environment • 0.5 FCE electives in any subject • Presentation at Seminar Series or Research Day 	3.0 FCE

Web: www.environment.utoronto.ca/graduate

Email: grad.director.env@utoronto.ca or pavel.pripa@utoronto.ca or grad.office.env@utoronto.ca

7.6 Environmental Studies (MA, MSc, PhD)

The Collaborative Specialization in Environmental Studies provides students who have an interest in the environment with interdisciplinary learning that complements the discipline-based study they are doing in their home units. That learning takes place in both the formal courses offered by the School and in the informal contacts with other students and faculty at seminars and other School events. One of the compelling strengths of the specialization is the interdisciplinary environment in which teaching and research are conducted. For example, the core course ENV1001H typically has students from 10 to 20 academic disciplines and accordingly places an emphasis upon the challenges and rewards of interdisciplinary communication. Students are both able to specialize in an area of environmental research and gain exposure to a wide range of intellectual and methodological disciplines focused on environmental issues.

Program	Requirements	Total FCE
Master's Thesis	0.5 FCE GGR1105 or GGR1200H 0.5 FCE ENV1001H 0.5 FCE elective in geography 0.5 FCE elective in environment	2.0 FCE
Master's MRP	0.5 FCE GGR1105H or GGR1200H 0.5 FCE ENV1001H 1.0 FCE electives in geography 0.5 FCE elective in environment 0.5 FCE ENV4444Y Internship	3.0 FCE (including internship)
PhD Physical Geography	0.5 FCE GGR1200H 0.5 FCE ENV1001H 0.5 FCE elective in geography 0.5 FCE elective in environment	2.0 FCE
PhD Human Geography	0.5 FCE GGR1110H 0.5 FCE ENV1001H 1.0 FCE electives in geography 0.5 FCE electives in environment 0.5 FCE electives in any subject	3.0 FCE

Web: www.environment.utoronto.ca/graduate

Email: grad.director.env@utoronto.ca or pavel.pripa@utoronto.ca or grad.office.env@utoronto.ca

7.7 Ethnic and Pluralism Studies (MA, PhD)

Ethnic and Pluralism Studies at the University of Toronto offers students with interests in ethnic and pluralism studies the opportunity to widen their horizons, to expand their knowledge beyond a single disciplinary base, and to take advantage of the wealth and diversity of academic resources available at the University of Toronto—a great university situated in a large and culturally cosmopolitan city.

Program	Requirements	Total FCE
Master's Thesis	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE JTH3000H • 0.5 FCE course in ethnicity from geography • 0.5 FCE course in ethnicity from outside geography 	2.0 FCE
Master's MRP	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE JTH3000H • 0.5 FCE course in ethnicity from geography • 0.5 FCE course in ethnicity from outside geography • 1.0 FCE electives in geography 	3.0 FCE
PhD Human Geography	<ul style="list-style-type: none"> • 0.5 FCE GGR1110H • 0.5 FCE JTH3000H • 1.0 FCE courses in ethnicity from geography • 1.0 FCE courses in ethnicity from outside geography 	3.0 FCE

Web: <https://munkschool.utoronto.ca/ethnicstudies>

Email: ethnic.studies@utoronto.ca

7.8 Food Studies (MA, MSc, PhD)

Food Studies is an interdisciplinary field dedicated to understanding where our food comes from and how it shapes our bodies and identities. The production and consumption of food has gone through tremendous changes in the past few hundred years. Before industrialization, most food was grown in the place where it was eaten. With the rise of global commodity agriculture, it is often hard to find out exactly what our food is and where it comes from. Then, famine was a constant spectre, whereas today, over-eating has become a significant health problem.

Particular attention will be given to the material nature of food, the way it tastes and smells, and the changes it undergoes through natural decomposition and through the human intervention of preservation and cooking. Students will learn the importance of food in religion, society, the family, gender roles, the environment, agriculture, urbanization, immigration, colonialism, and race and ethnicity. Food Studies will leverage the University's urban location and its proximity to Canada's agricultural heartland to broaden students' experience. The study of food provides both theoretical understanding and practical knowledge for professional careers in health care, business, government service, non-governmental organizations, and educational and community programs. This specialization will draw on a variety of disciplinary approaches emphasizing different knowledge and skills.

Program	Requirements	Total FCE
Master's Thesis	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE FST1000H • 0.5 FCE elective in geography • Participate regularly and actively in the Culinaria Seminar Series (SRM3333H) 	1.5 FCE coursework plus 0.5 FCE Seminar Series

Program	Requirements	Total FCE
Master's MRP	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE FST1000H • 1.5 FCE electives in geography • 0.5 FCE electives in any subject • Participate regularly and actively in the Culinarium Seminar Series (SRM3333H) 	3.0 FCE coursework plus 0.5 FCE Seminar Series
PhD Human Geography	<ul style="list-style-type: none"> • 0.5 FCE GGR1110H • 0.5 FCE FST1000H • 0.5 FCE FST2000H • 1.0 FCE electives in geography • 0.5 FCE electives in any subject • Participate regularly and actively in the Culinarium Seminar Series SRD4444H 	3.0 FCE coursework plus 0.5 FCE Seminar Series

Web: www.utscc.utoronto.ca/culinarium

Email: culinarium@utscc.utoronto.ca

7.9 Global Health (MA, MSc, PhD)

The graduate programs listed above participate in the Collaborative Specialization in Global Health. This specialization offers students collaborative and interdisciplinary graduate education and research opportunities in global health. Global health is viewed as an integrative construct that focuses on the inter-relationships between local, regional, national, and international factors influencing health and health equity and effective programs and policies that will address these factors.

The Collaborative Specialization in Global Health enhances the student experience by exposing students to a broad base of faculty expertise and an opportunity to share research ideas and results from multiple disciplinary perspectives. This specialization signals the University's commitment to improving the well-being of people in Canada and around the world through higher education and advanced research in global health.

Program	Requirements	Total FCE
Master's Thesis	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H or GGR1200H • 0.5 FCE CHL5700H Seminar • 0.5 FCE elective in geography 	1.5 FCE
Master's MRP	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H or GGR1200H • 0.5 FCE CHL5700H Seminar • 1.5 FCE electives in geography • 0.5 FCE electives in any subject 	3.0 FCE
PhD Physical Geography / Spatial Analysis	<ul style="list-style-type: none"> • 0.5 FCE GGR1200H • 0.5 FCE CHL5701H Seminar • 0.5 FCE from a selection of core Global Health courses. The FCE increases to 1.0 FCE if the student selects JCR1000Y. • 0.5 FCE elective in geography • 0.5 FCE elective outside geography, approved by Global Health Director 	2.5 – 3.0 FCE
PhD Human Geography	<ul style="list-style-type: none"> • 0.5 FCE GGR1110H • 0.5 FCE CHL5701H Seminar • 0.5 FCE from a selection of core Global Health courses. The FCE increases to 1.0 FCE if the student selects JCR1000Y. • 1.0 FCE elective in geography 	3.0 – 3.5 FCE

Program	Requirements	Total FCE
	<ul style="list-style-type: none"> 0.5 FCE elective outside geography, approved by Global Health Director 	

Web: www.dlsph.utoronto.ca/global-health/office-of-global-public-health-education-training/collaborative-specialization-in-global-health

Email: ghoffice.dlpsh@utoronto.ca

7.10 Indigenous Health (MA, PhD)

The Collaborative Specialization in Indigenous Health involves the graduate programs listed above. Indigenous Health is offered in collaboration with the Faculty of Arts and Sciences' Indigenous Studies program and the Waakebiness-Bryce Institute for Indigenous Health (WBIH). The main objective is to provide graduate training in Indigenous health research and practice while enhancing mutually beneficial relationships with Indigenous communities and organizations.

Program	Requirements	Total FCE
Master's Thesis	<ul style="list-style-type: none"> 0.5 FCE GGR1105H 0.5 FCE CHL5520H 0.5 FCE elective in geography 	1.5 FCE
Master's MRP	<ul style="list-style-type: none"> 0.5 FCE GGR1105H 0.5 FCE CHL5520H 1.5 FCE electives in geography 0.5 FCE electives in any subject 	3.0 FCE
PhD Human Geography	<ul style="list-style-type: none"> 0.5 FCE GGR1110H 0.5 FCE CHL5520H 1.0 FCE elective in geography 1.0 FCE elective in any subject 	3.0 FCE

Web: www.dlsph.utoronto.ca/institutes/wbih/collaborative-specialization-in-indigenous-health

Email: angela.mashford.pringle@utoronto.ca

7.11 Jewish Studies (PhD)

The Collaborative Specialization in Jewish Studies offers both broad and intensive exposure to the constituent fields within Jewish Studies. Because of Jewish civilization's vast chronological and geographical range, as well as its constant interaction and cross-fertilization with other cultures, graduate work within Jewish Studies demands intensive exposure to a wide variety of languages, textual traditions, and scholarly disciplines.

Program	Requirements	Total FCE
PhD Human Geography	<ul style="list-style-type: none"> 0.5 FCE GGR1110H 0.5 FCE CJS2000H 0.5 FCE elective in geography 0.5 FCE elective in geography taught by a member of the CJS faculty 0.5 FCE elective outside geography taught by a member of the CJS faculty 0.5 FCE elective in any subject 	3.0 FCE

Web: www.cjs.utoronto.ca

Email: cjs.director@utoronto.ca

7.12 Sexual Diversity Studies (MA, PhD)

The Collaborative Specialization in Sexual Diversity Studies, offered by the Mark S. Bonham Centre for Sexual Diversity Studies, is rigorously interdisciplinary and recognizes sexual diversity studies as an interdisciplinary field of inquiry. While it has emerged as an autonomous scholarly area, many of those who work within it engage questions of gender, ethnicity, race, Aboriginal status, (dis)ability, and class, to highlight the importance of exploring their interaction with sexual differences.

Program	Requirements	Total FCE
Master's Thesis	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE SDS1000H • 0.5 FCE elective in geography with substantial treatment of sexual diversity 	1.5 FCE
Master's MRP	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE SDS1000H • 1.5 FCE electives in geography • 0.5 FCE electives in any subject • One of the electives above must be with a substantial treatment of sexual diversity 	3.0 FCE
PhD Human Geography	<ul style="list-style-type: none"> • 0.5 FCE GGR1110H • 0.5 FCE SDS1000H • 1.0 FCE elective in geography • 1.0 FCE elective in any subject • One of the electives above must be with a substantial treatment of sexual diversity 	3.0 FCE

Web: <http://sds.utoronto.ca>

Email: sexual.diversity@utoronto.ca

7.13 South Asian Studies (MA, PhD)

The interdisciplinary Collaborative Master's and Doctoral Specialization in South Asian Studies is designed for students who wish to acquire a nuanced understanding of South Asia as a secondary area of specialization while pursuing graduate studies in another discipline. The focus of South Asian Studies is necessarily broad in that it provides students with an understanding of ancient and modern history, social change, economic development, contemporary politics, religious traditions, literary culture, and a spectrum of related topics.

The Centre for South Asian Studies, which administers the collaborative specialization, provides a nucleus for the participation of South Asian Studies scholars from across the University. Students will benefit from the physical presence of the centre and its regular activities of research fora, conferences, and visiting lecturer and scholar programs. In addition, the University's library collection in South Asian studies is the largest in Canada.

Program	Requirements	Total FCE
Master's Thesis	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE SAS2004H • 0.5 FCE elective in geography • Attendance at a minimum of 2 lectures per term at the SAS lecture series 	1.5 FCE
Master's MRP	<ul style="list-style-type: none"> • 0.5 FCE GGR1105H • 0.5 FCE SAS2004H • 1.5 FCE electives in geography • 1.0 FCE electives in any subject 	3.0 FCE

Program	Requirements	Total FCE
	<ul style="list-style-type: none"> Attendance at a minimum of 2 lectures per term at the SAS lecture series 	
PhD Human Geography	<ul style="list-style-type: none"> 0.5 FCE GGR1110H 0.5 FCE SAS2004H 1.0 FCE elective in geography 1.0 FCE elective in any subject Attendance at a minimum of 2 lectures per term at the SAS lecture series 	3.0 FCE

Web: <https://munkschool.utoronto.ca/csas/graduate-study/>

Email: southasian.grad@utoronto.ca

7.14 Women and Gender Studies (MA, PhD)

The Graduate Collaborative Specialization in Women and Gender Studies (CWGS) provides students with an opportunity for advanced feminist studies in concert with an MA or PhD degree in another discipline. The Collaborative Specialization offers a rich interdisciplinary environment in which to grapple with how gender and sexuality are entangled with questions of race, citizenship, embodiment, colonialism, nation, global capitalism, violence, political economy, cultural formations, aesthetics, and other pressing concerns.

Program	Requirements	Total FCE
Master's Thesis	<ul style="list-style-type: none"> 0.5 FCE GGR1105H 0.5 FCE WGS5000H 0.5 FCE elective cross-listed or approved geography course with a focus on women/gender/feminist/sexuality/critical race/postcolonial studies Regular attendance at the WGS Research Seminar 	1.5 FCE
Master's MRP	<ul style="list-style-type: none"> 0.5 FCE GGR1105H 0.5 FCE WGS5000H 1.5 FCE electives in geography 1.0 FCE electives in any subject One of the electives above must be cross-listed or approved course with a focus on women/gender/feminist/sexuality/critical race/postcolonial studies Regular attendance at the WGS Research Seminar 	3.0 FCE
PhD Human Geography	<ul style="list-style-type: none"> 0.5 FCE GGR1110H 0.5 FCE WGS5000H or WGS5001H 0.5 FCE elective in WGS 1.0 FCE elective in geography 0.5 FCE elective in any subject At least 1.0 FCE of the electives above must be cross-listed or approved courses with a focus on women/gender/feminist/sexuality/critical race/postcolonial studies Regular attendance at the WGS Research Seminar 	3.0 FCE

Web: www.wgsi.utoronto.ca/graduate/collaborative-program

Email: grad.womenstudies@utoronto.ca

8 Graduate Supervision

8.1 Supervisor(s)

The student-supervisor relationship is a foundation of graduate education, particularly in doctoral-stream programs. The success of a good supervisory relationship is a shared responsibility. It depends on both the student and supervisor communicating well, being tolerant and understanding, and each holding the other to high standards. The department also plays a role, providing clarity and consistency of expectations, upholding academic standards, administering the program fairly and effectively, and intervening where necessary to help resolve problems.

8.1.1 Supervision Guidelines and Checklist

At the start of a student's program and regularly throughout, the department recommends that students meet with their supervisor and set out clear, shared expectations, discuss intellectual property issues and publication expectations and other matters. The department recommends that students and supervisors review the Graduate Supervision Guidelines available on the SGS website at <https://www.sgs.utoronto.ca/admissions/find-a-supervisor/>, and each complete a graduate supervision checklist (contained in the guidelines).

8.1.2 Student-Supervisor Conflict Resolution

Should a problem arise in the supervisory relationship, students and faculty are advised to try resolving the difficulty amicably through informal discussion first. If that does not resolve the problem, students and faculty should discuss the issue with the Associate Chair, Graduate.

8.2 Supervisory Committee

The Supervisory Committee consists of the supervisor or co-supervisors, at least one additional graduate faculty member from the department and an additional graduate faculty member from any graduate unit. Additional members can be added if necessary. The Supervisory Committee meets with the student to review progress at least once a year, administers program exams, and regularly provides advice on future work.

The supervisory committee provides support to the student and supervisor by broadening and deepening the range of expertise and experience available and by offering advice about, and assessment of, the student's work.

Doctoral students are expected to form a supervisory committee in consultation with their supervisor by April of year 1. Many students start connecting with committee members earlier, in January of year 1. It is recommended that students meet or take a course with faculty they might want to be on their committee early on to get a sense if a good match of interests exists. PhD students are required to meet with their supervisory committee at least once a year (normally April to June).

Masters students should discuss forming a committee with their supervisor when they are developing their research proposal (March/April). The supervisor may recommend that establishing a committee early or they may recommend doing this at the writing stage when the student has started to draft a thesis/major research paper.

The supervisory committee must include:

1. The supervisor or co-supervisors;
2. An additional faculty member from Geography and Planning

3. At least one additional graduate faculty member. This can be from Geography and Planning or another graduate unity at the University.

Additional Members may be added if necessary.

9 Courses

Students should consult with their supervisor before selecting courses. Supervisors may require that students enrol in courses she/he teaches, or may have other suggestions for courses that may be appropriate for a student's research interests.

There is no departmental requirement to take a particular number of courses during any given session. Normally coursework is spread over the fall and winter sessions and the number taken in a term may vary depending on courses available in a given year and the student's research interests. Generally, students take up to three courses per term but may take more or less. For master's students, the expectation is that coursework is completed by end of April year 1 and for PhD students by end of year 1.

9.1 Geography & Planning Courses

Courses are available on demand and subject to faculty resources. Consult the Graduate Geography Course Timetable on the website at <http://geography.utoronto.ca/graduate-geography/timetables-courses/> for availability. The GGR designation refers to geography courses, the JPG designation refers to joint planning-geography courses. In addition to the courses listed in this handbook, the department may offer Special Topic courses that will be listed each year in the timetable on the website.

Courses marked with an asterisk (*) within this handbook are taught by geography graduate faculty members and are offered through other departments. Enrolment in these courses is subject to available space and permission of the host department.

9.1.1 Core and Reading Courses

GGR 1105H Human Geography Core Course (MA level)

(S. Wakefield/J. Zhang)

This course is primarily aimed at MA students, but would be open, with instructor approval, to PhD students as well. The course will feature discussion of a number of issues pertaining to what life is like as an academic and some of the related skills and experiences that go along with it (e.g., the tenure process, journal peer review processes, tips on how to publish journal articles, research collaboration, conference presentations, teaching, the academic job market, relationship between academia and the wider world, public intellectualism, theoretical versus applied work, etc.). In addition, it will include engagement with non-academic career trajectories, including how skills and experiences from graduate school can contribute to (or hinder?) success in policy deliberations, activism, government and non-profit work, etc. It will also encompass an overview of non-profit work, major debates in the field, and of theory and explanation in geography. The course incorporates a workshop on proposal writing or research statement element for MA students.

The main difference between GGR 1105H and GGR 1110H is in the reading load but also the contrast in specific goals. Specifically, GGR 1110H emphasizes critical reading and thinking drawing on contemporary texts by or relevant to geographers, discussion of readings and the role of theory and evidence in explanation, and perhaps also paying explicit attention to different writing styles. GGR 1105H is more of a wide-ranging course but with some emphasis on practical survival tips for academic and related spheres of life.

GGR 1110H Issues in Geographical Thought and Practice (PhD level)

(R. Buliung)

How do geographers go about addressing the challenges and problems of the world? How does the wider context (social, institutional, environmental....geographical!) shape the kinds of issues geographers examine, how these

issues are framed, and how they are addressed? How do broad intellectual currents influence the work that is done in geography (and vice versa), and how do we understand the relationships between the broad intellectual currents and the “world out there”? Consistent with current emphasis in critical geography, all geographers, whether explicit or not, are using both theory and so politics in their work, along with some implicit or explicit problem statement in framing what they look at and what are they trying to explain. Even the choice of phenomena to examine is a political choice. Thinking carefully about these issues helps to understand the relationship between scholarship (geographical or otherwise) and the “real world”, while at the same time facilitating reflexive and careful consideration of research topics and approaches. This is, in our view, preferable to relying uncritically on policy or academic discourses and their prevailing theories, debates, questions, and approaches.

GGR 1200H Physical Geography Core Course

(D. Harvey, Y. He)

This is a mandatory core course for all first year physical geography (MSc and PhD) graduate students. The main objective is to introduce students to successful approaches in graduate school and for conducting scientific research. Specifically, topics will include: fellowship application, literature review, experimental design, presentation skills, proposal preparation, and disseminating scientific research. It also will provide an overview of physical geography as a discipline and include guest presentations by members of each of the four newly established physical geography research clusters. The course will foster intellectual interactions and build support within student cohorts and include mandatory attendance at departmental and university seminar series. Doctoral students who completed their Master’s in Physical Geography in this department and who took this course as a Master’s student are exempted from taking this course as part of their doctoral course work. Following discussion between student, supervisor, and the Associate Chair, Graduate, exemption from this course may also be granted to certain PhD students who have taken an equivalent course as part of their MSc program.

GGR1149H Readings in Selected Topics (MA/MSc level)

Available through individual faculty members.

GGR2149H Readings in Selected Topics (PhD level)

Available through individual faculty members.

9.1.2 Research Methods Courses

JPG1111H Social Research Methods

(K. Wilson)

This course provides students with an opportunity to develop or advance their understanding of social research methods through in-depth examination of research approaches, design, ethics, rigour, and a range of qualitative and some quantitative methods. Specific methods covered in the course include on-one-one interviews, focus groups, surveys, as well as emerging methods (e.g., photo voice, go-along interviews). The course also covers cross-cultural and Indigenous approaches to research. The goals of the course will be to provide students with the knowledge needed to effectively evaluate research, understand the process of research design, formulate research questions, and develop a research proposal.

JPG1120H Advanced Qualitative Research: Methodology and Epistemological Foundations for Planning and Geography

(K. Rankin)

This course arises out of the interest of doctoral students in Planning and Geography who desire to acquire rigorous qualitative research skills that would complement their research interests, assist in developing their dissertation proposals, and contribute to preparation for a career as educators and scholars in academia and beyond. The primary concern is to develop a deep understanding of a range of qualitative research methods and their epistemological foundations, with an emphasis on ethnographic approaches. Readings and discussions will be

oriented to developing a philosophical understanding of the epistemology and ontology of knowledge so that students can develop a critical approach to research design. Readings reflect an understanding that doctoral planning and geography students commonly conduct ethnographic research in international settings, which requires an ability to read and interpret complex meanings, as well as attend to the politics of knowledge production and representation. The course will also address basic qualitative research methods, such as interviews and discourse analysis, and approaches to analysis (including the use of qualitative analysis software) – with a focus on critical approaches to knowledge production and researchers’ positionality. The course is organized as a seminar with a heavy emphasis on collective analysis of course materials, and each student’s involvement in writing reflections and classroom discussions on a weekly basis.

GGR1218H Quantitative, Open-Source Methods in Physical Geography Research

(T. Porter)

Quantitative research in physical geography and the earth sciences has increasingly relied on custom, open-source coding solutions in programming languages such as R and MATLAB in order to efficiently mine large datasets and analyze and visualize spatiotemporal phenomena. This course provides hands-on, workshop-based training in two of the most widely used programming languages in the geosciences, R and MATLAB. The workshops will focus on applications of data mining, exploration and management; working with self-describing, multi-dimensional data formats (e.g., NetCDF); publication-quality figures and data visualization; statistical analysis; linear regression modelling; time-series and signal processing; and mapping. Students will complete four assignments to hone their coding and problem-solving skills, and a final project that applies these skills to their research. This course is specifically aimed at students with little to no coding experience. Students interested in taking this course are strongly encouraged to contact the professor before the start of the semester to discuss your motivations in taking the course and research interests so that lessons can be customized to the broad interests of the class as much as possible.

JPG1400H Advanced Quantitative Methods

(M. Widener)

Spatial Analysis consists of set of techniques used for statistical modeling and problem solving in Geography. As such, it plays an integral role in the detection of spatial processes and the identification of their causal factors. It is therefore a key component in one’s preparation for applied or theoretical quantitative work in GIScience, Geography, and other cognate disciplines. Space, of course, is treated explicitly in spatial analytical techniques, and the goal of many methods is to quantify the substantive impact of location and proximity on human and environmental processes in space.

***EES1119H Quantitative Environmental Analysis**

(G. Arhonditsis)

This course provides an introduction to the field of ecological statistics. Students will become familiar with several methods of statistical analysis of categorical and multivariate environmental data. The course will provide a comprehensive presentation of the methods: analysis of variance, regression analysis, structural equation modeling, ordination (principal component & factor analysis) and classification (cluster & discriminant analysis) methods, and basic concepts of Bayesian analysis. Emphasis will be placed on how these methods can be used to identify significant cause-effect relationships, detect spatiotemporal trends, and assist environment management by elucidating ecological patterns (e.g., classification of aquatic ecosystems based on their trophic status, assessment of climate variability signature on ecological time series, landscape analysis). The course will consist of 2 hr.-lectures/tutorials where the students will be introduced to the basic concepts of the statistical methods and 2-hr lab exercises where the students will have the opportunity to get hands-on experience in statistical analysis of environmental data. This course is offered through the Department of Physical & Environmental Sciences.

9.1.3 Physical Geography Courses

GGR1202H Sedimentation and Fluvial Geomorphology

(J. Desloges)

Elements of drainage basin morphology and hydrology, classification of rivers, stream patterns, and hydraulic geometry. Elements of open channel flow, sediment transport, channel change mechanisms and human impacts on river development. Exclusion GGR301H (STG).

GGR1215H Advanced Watershed Hydroecology

(J. Chen)

Hydrology and ecology are inter-related disciplines in Earth science. Hydroecology is a branch of ecology with emphasis on the effects of hydrological processes on living and non-living organisms and on their relationships in terrestrial and aquatic ecosystems. In particular, the redistribution of water over the landscape through surface and subsurface water flows regulates energy, mass and carbon fluxes from the land surface to the atmosphere, affecting the plant distribution and productivity as well as regional and global climate. In this course, a user-friendly, menu-driven hydroecological model will be used in practice to give a hands-on experience for modeling. Methods for handling spatial datasets, including those derived from remote sensing, will also be taught. About 2/3 of course time is devoted to lecturing the basic principles, concepts and related equations, and 1/3 for conducting a research project using the hydroecological model. The list of topics for the project will be suggested, but it can also be self-chosen. Exclusion GGR413H (STG).

GGR1216H Advanced Biogeochemical Processes

(I. Lehnherr)

Biogeochemistry explores the intersection of biological, chemical, and geological processes that shape the environment. In an era of unprecedented human-induced environmental and climate change, research in this field is advancing rapidly. This seminar course explores the biogeochemical cycles of major and trace elements including carbon, nitrogen, phosphorus, sulfur and mercury, and examines how humans alter these cycles resulting in many of the environmental issues we are faced with today, such as eutrophication, climate change, ocean acidification and pollution by toxic contaminants. Additionally, the course focuses on the mechanisms controlling biogeochemical processes at local to global scales, including interactions between abiotic and biotic factors, such as climate, redox conditions, microbial metabolism and ecology. Topics covered include biogeochemical processes in the atmosphere (e.g., aerosols-ecosystems productivity interactions, black carbon), aquatic ecosystems (e.g., redox controls on sediment P release in eutrophic lakes) and terrestrial environments (e.g., soil respiration of legacy carbon in thawing permafrost), as well as some of the emerging techniques (e.g., stable-isotopes, -omics, paleo-proxies) used in biogeochemistry. Exclusion: GGR406H (UTM).

GGR1217H The Climate of the Arctic

(L. Brown)

High latitude environments are becoming the focus of increasing scientific attention because of their role in global environmental change. The implications of changes occurring to the sea ice and snow cover are far reaching and can have impacts on physical, biological and human systems both within and beyond the region. This course will provide a comprehensive examination of climates of high latitudes. Topics that will be covered include the Arctic energy budget and atmospheric circulation, the hydrologic cycle in the Arctic, the ocean-sea ice-climate interactions and feedbacks, modelling the Arctic climate system as well as an evaluation of recent climate variability and trends. Exclusion: GGR484H (UTM).

GGR1302H Advanced Hydrology and Water Quality

(T. Duval)

This course will take a hydrological perspective in examining the landscape controls on surface water quality. We will consider how the study of surface water and ground water hydrology lead to an understanding of stream water chemistry through the examination of hydrological flowpaths and the chemical interaction of water and the

matrix/matrices through which it flows. An advanced understanding of hydrological processes will be emphasized. Pertinent field and laboratory techniques will be introduced. Pre-requisites: GGR 309H/315H, OAC Chemistry or equivalents. Exclusion: *GGR407H (UTM)*.

GGR1315H The Cryosphere

(L. Brown)

Snow and ice dominate the Canadian landscape. There is virtually no area in Canada which escapes the influence of snow and ice. We skate on frozen ponds, ski down snow laden mountains, drive through snow blizzards and watch how ice jams in rivers cause rivers to swell and floods to occur. The duration and the thickness of snow and ice increase rapidly northwards, and glaciers are found in mountainous areas and in large parts of the Arctic region. Given that snow and ice impact heavily on the Canadian way of life, this course seeks to understand the dynamics of snow and ice in a hydrological context. This course will examine snow properties, snowcover distribution, glacier hydrology, melt runoff, and ice in its many forms (lake ice, river ice, sea ice, and ground ice). This course will also examine some of the recent observed changes occurring in the cryosphere regions of Canada. This course includes a 2 day field trip (participation can be discussed on an individual basis). *Exclusion; GGR317H (UTM)*.

***EES1118H Fundamentals of Ecological Modelling**

(Instructor TBD)

This course provides an introduction to the rapidly growing field of ecological and environmental modelling. Students will become familiar with most of the basic equations used to represent ecological processes. The course will also provide a comprehensive overview of the population and dynamic biogeochemical models; prey-predator, resource competition and eutrophication models will be used as illustrations. Emphasis will be placed on the rational model development, objective model evaluation and validation, extraction of the optimal complexity from complicated/intertwined ecological processes, explicit acknowledgment of the uncertainty in ecological forecasting and its implications for environmental management.

***EES1126H Hydrology and Watershed Management**

(C. Mitchell)

This course focuses on the use of various isotopes and chemical factors for furthering our understanding of complex environmental problems, ranging from the characterization of freshwater resources to contaminant transport in aquatic systems. Particular focus will be placed on how chemical and isotope tracer studies can be coupled with physical measurements to understand complex problems in hydrology, biogeochemistry, and contaminant transport. This course will cover fundamentals of environmental tracer chemistry through to recent case studies, advanced models and applications. This course is offered through the Department of Physical & Environmental Sciences.

***EES1128H Biophysical Interactions and Managed Environments**

(M. Isaac)

This course will focus on biophysical interactions at the advanced level, incorporating specialized concepts on plant-soil relationships, biogeochemical cycles, and ecosystem functioning in managed forests and agriculture. Students will be provided the opportunity to engage with course topics in seminar, field and laboratory format. Sampling and analytical techniques covered are in-situ soil and leaf-level gas exchange analysis, soil sampling, preparation and elemental analysis, and quantification of plant metrics. By the end of this course, students will have an understanding of the complexities and dynamics in managed environments, specifically ecosystem structure and function, soil fluxes including decomposition and mineralization processes, plant growth and nutrition, and production-diversity relationships. This course is offered through the Department of Physical & Environmental Sciences.

***EES1133H Climate Change Science and Modelling**

(Instructor TBD)

The course is designed to introduce the fundamental concepts underlying our current understanding of the climate system. The science of climate includes basic radiation physics and dynamics, which are the basis of modern climate modelling. The changes in the radiation energy budget will be examined in terms of natural variability and anthropogenic activities, in particular, greenhouse gases and their sources and sinks. Underlying physical processes that shape our climate will be explored e.g. solar variability, orbital mechanics, atmospheric and oceanic circulation, and volcanic and atmospheric aerosols. In addition, the types of climate modelling experiments performed with modern climate models and scenarios will be reviewed by focusing on the evidence for past and present climate change. The latest projections of future climate on a variety of temporal and spatial scales will also be presented and evaluated. This course is aimed at connecting the essentials of climate science and modelling, and training students to interpret the results of modelling experiments. This course is offered through the Department of Physical & Environmental Sciences.

***ESS1136H – Climate Change Adaptation**

(N. Klenk)

This graduate course will focus on adaptation science and practice at local, provincial, national and international scales. Students will learn about how climate change adaptation is perceived, studied and performed by civil society groups and governments through various theoretical perspectives: resilience theory, neo-liberal theory and critical theory. Students will also learn about different governance approaches that support adaptation: multi-level, poly-centric, experimental and anticipatory governance arrangements. Using case studies ranging from local adaptation planning in Canada to the IPCC's contributions to knowledge synthesis, students will gain a better understanding of the social, economic, political and ethical dilemmas at the core of adaptation science and practice. Combined lecture-seminar format. This course is offered through the Department of Physical & Environmental Sciences.

9.1.4 Environmental Geography Courses

GGR1404H Issues in Global Warming

(D. Harvey)

This course presents a comprehensive overview of the greenhouse gas/global warming issue, its relationship to other atmospheric environmental problems, and policy options at the local to international scale. *Exclusion: GGR314H (STG).*

GGR1406H Sustainable Building Energy Use and Supply

(D. Harvey)

Energy use in buildings accounts for about 40% of total world energy use and fossil fuel-related greenhouse gas emissions. This course examines steps that could be taken to eventually supply the energy needs of the world's buildings entirely from renewable energy sources. The single most important step in that process is to dramatically reduce the energy requirements of new buildings compared to recently completed new buildings, and to achieve deep savings through retrofits of existing buildings, so much of the course will deal with energy savings opportunities in buildings. Having reduced energy requirements by a factor of 3-4 in this way, the next step is to meet the remaining energy needs through some combination of on-site renewable energy supply, through community-level renewable energy systems, or by provision of renewable electricity through the grid from regions where renewable energy is available on a large scale. As wind and solar energy are capable of providing the necessary energy after implementation of efficiency measures, the course finishes with a critical discussion of these energy sources. For both energy efficiency and energy supply, the focus is on the understanding of how the measures under consideration work, what their limitations are, and their economic costs. *Exclusion: GGR333H (STG).*

GGR1407H Efficient Use of Energy

(D. Harvey)

The course examines the options available for dramatically reducing our use of primary energy with no reduction

in meaningful energy services, through more efficient use of energy at the scale of energy-using devices and of entire energy systems. Topics covered include energy use in buildings, transportation, industry, and agriculture. Each topic will cover (i) the underlying physical principles that determine the potential of and the limits to energy efficiency improvements, (ii) the difference in potential savings when focusing on individual energy using devices rather than entire energy-using systems, (iii) examples of efficiency improvements that have been achieved in practice in various countries around the world, and (iv) the cost and financing of energy efficiency improvements. As well, the role of the so-called rebound effect in eroding the energy-saving benefit of efficiency improvements will be discussed. Exclusion: GGR347H.

GGR1408H Carbon-Free Energy

(D. Harvey)

The course examines the options available for providing energy from carbon-free energy sources: solar, wind, biomass, hydro, oceanic, and geothermal energy, as well as through sequestration of carbon from fossil fuel sources. The hydrogen economy is also discussed. For each carbon-free energy source, the physical principles, physical or biophysical limits, efficiencies, and other constraining factors are discussed, as well as examples of current applications, current and projected future costs, and possible future scenarios. The course concludes by combining the main conclusions for JPG 1407H concerning the prospects for reducing energy demand through improved energy efficiency, with the conclusions drawn in this course concerning the feasibility of large-scale carbon-free energy, to generate scenarios of future greenhouse gas emissions, showing the range of possible consequences for global mean temperature, sea level rise, and ocean acidification. Exclusion: GGR1406H; GGR348H

JPG1410H Institutional and Organizational Ecology

(K. MacDonald)

This seminar focuses on the role of institutions in structuring nature-society relations and environmental management. As property relations are restructured, and management responsibilities both centralized and decentralized in different parts of the world, institutions historically responsible for governing human-environment relations morph and are often displaced by spatially and ideologically distant realms of authority, including international non- and inter-governmental organizations. Readings and discussion in this seminar focus on, among other topics, understanding the effect of institutions on local ecosystem dynamics, factors contributing to institutional resilience and vulnerability, institutional production of environmental knowledge, and methodological tools and approaches required to understand new and emergent institutional contexts of environmental production.

GGR1411H Nature and Justice in the Anthropocene

(N. Singh)

The current ecological crisis is calling into question our ways of being human and of relating to the rest of the world. The course addresses the challenge of rethinking nature-society relations and issues of justice in the Anthropocene. It asks whether the concept of the Anthropocene and its variants, helps power (or not) emancipatory politics and visions for future that socially just and ecologically abundant. We will draw from Indigenous ontologies, Environmental Justice movements, transition discourses, and aspirations for “living well” as well as contemporary theories of affect, more-than-human geographies and new materialism to query and reimagine nature-society entanglements. Topics covered include: environmental thought and activism, Environmental and Climate Justice movements, post-capitalist economic imaginaries and transition discourses.

JPG1421H Health in Urban Environments

(TBD)

This course explores ways of theorizing, evaluating, and improving health in urban areas. Through readings, group discussion, and individual and group inquiry, students will examine the key mechanisms by which urban environments (broadly defined) impact on the people living in them, and how - and to what extent - urban

residents can in turn alter their environments to facilitate health. While this course is grounded in the practice-oriented discourses of urban planning and health promotion, a critical awareness of, and debate about, the strengths and limitations of various approaches to promoting and maintaining the health of urban residents in both developed and developing countries will be encouraged.

GGR1422H The Geography of Urban Air Pollution

(M. Adams)

This course will examine current local to global issues of urban air pollution. Topics covered will include understanding sources of air pollution, human health effects and study designs, stages of urban development and air pollution, mitigation approaches, global challenges and current air pollution issues by region. Measurement technologies and their applications, including low-cost sensors and regulatory grade instrumentation will be explored. Students will apply tools for spatial and temporal modelling of urban air pollution including dispersion modelling, spatial interpolation, remote sensing and land use regression modelling.

JGE1425H Livelihoods, Poverty and Environment in the Developing Countries

(C. Abizaid)

The livelihoods of the rural (and in some cases the urban) poor in the developing world are closely connected to the environment. Hundreds of millions of people, including many indigenous and other traditional peoples, rely directly upon natural resources, at least in part, for their subsistence and often, also, for market income. For many of them, access to such resources is a matter of survival-of life or death, a way of life, or the hope for a better future for them or for their children. Although the livelihoods of these peoples are sometimes regarded as having a negative impact on the environment, more recently, many of them are being heralded as models for biodiversity conservation and sustainable resource. A better understanding of how the rural (and urban) poor make a living - their livelihoods- is considered key to addressing issues of poverty and sustainable resource use, and also for environmental change mitigation and adaptation. This course seeks to develop an understanding of livelihoods among the poor in developing countries, with a focus on how assets, social relations and institutions shape livelihood opportunities in the present and into the future. More broadly, attention will be paid to the ways in which livelihoods are connected to the environment, but also to economic and political processes, with an eye to gain insight on their potential for poverty alleviation, sustainable resource use, and environmental change mitigation/adaptation. The course will also explore emerging areas of inquiry in livelihoods research.

JPGR1426H Natural Resources, Difference and Conflict

(S. Mollet)

This course is concerned with the ways in which natural resource policies governing use, access, and control of resources are imbued with and reproduce conflict. Through a variety of case studies and theoretical engagements (feminist, postcolonial, anti-racist, Marxist, post-humanist), this course examines how natural resource conflicts are shaped by multiple kinds of power. In this course we discuss how such contests are more than political economic struggles. Through attention to the entanglements of environment, difference and struggle, a core aim of this seminar is to interrogate what is given and taken-for-granted within dominant narratives, instruments and institutions shaping land and territorial demarcation, water access and distribution, livelihood (in)security, oil and mineral extraction, biodiversity conservation, and struggles over urban citizenship. While this course looks to make visible how states and elites shape space through natural resource control, simultaneously, it attends to how people and their communities work to defend and remake their lives and livelihoods in the face of displacement and dispossession.

JPG1427H (Re)Localization of Food

(P. Desrochers)

The course will take an in-depth and critical look at current proposals to "re-localize" our food system through the (re)development of urban agriculture and shorter supply chains. It will survey recent policy reports and proposals

and take a broader historical perspective on the rationale behind the development of the long distance trade in food products and inputs.

JPG1428H Managing Urban Ecosystems

(T. Conway)

This reading seminar focuses on the different ways people interact with and manage urban ecosystems. The course begins by exploring the characterization of cities as ecosystems. We will then examine the socio-ecological research and management goals that draw on and build from an urban ecosystem perspective. Management of urban climates, hydrology, and vegetation will be explored. The role of municipal policy, built form, residents and other key actors will be examined in-depth. Throughout the course, issues associated with bridging knowledge gaps between the social and natural sciences, unique characteristics of urban ecosystems, and the role of individual decision-makers will be considered.

JPG1429H Political Ecology of Food and Agriculture

(M. Ekers)

Agrifood systems, connecting production and consumption, markets and various types of agrarian labour, are undergoing profound social and ecological change. Among these developments are large-scale land grabs, the financialization of food and farming, challenges to settler agriculture and the resurgence of indigenous food systems, the emergence of robust 'urban' and 'rural' alternatives to industrial and colonial agriculture. In trying to make sense of these changes, and the various social movements that have emerged in their wake, this course deploys the related paradigms of agrarian political economy and political ecology to analyze the forces and social relations that define land-based and food-focused transformations, both historically and in the contemporary moment. The course examines the often forgotten roots of contemporary debates in political ecology and food, that is, the enduring agrarian question. The agrarian question examines the extent to which capital has transformed agricultural production and the degrees to which producers have been able to resist dispossession and the industrialization and capitalization of agriculture. The course starts with foundational perspectives on the agrarian question from the early 20th century before discussing the renaissance of these debates in the 1970s and 1980s and the emergence during this time of political ecology as a critical approach to the study of food and land-based practices. Updating these earlier debates the course tackles a number of defining contemporary developments, as noted above, that are reshaping the meaning and character of land and food.

ENV1444H Capitalist Nature

(S. Prudham)

This course will draw on a range of theoretical and empirical research materials in order to examine the particularities of what might be referred to as "capitalist nature". Specifically, the course is concerned with three central questions: (i) what are the unique political, ecological, and geographical dynamics of environmental change propelled by capital accumulation and the dynamics of specifically capitalist forms of "commodification"? (ii) how and why is nature commodified in a capitalist political economy, and what are the associated problems and contradictions? (iii) how can we understand the main currents of policy and regulatory responses to these dynamics? This course is offered through the School for the Environment.

ENV1103H The U of T Campus as a Living Lab of Sustainability

(J. Robinson)

Sustainability is a growing priority for universities all over the world. Many are developing strong operational sustainability goals and targets, and are giving increasing emphasis to teaching and research on sustainability issues. Yet few have committed at the executive level to integrating academic and operational sustainability in the context of treating their campus as a living laboratory of sustainable practice, research and teaching. Such living lab approaches offer a large potential for universities to play a significant role in the sustainability transition. This course will explore and apply the living lab concept, in the context of operational sustainability at the University of Toronto. We will begin by looking briefly at the literature on university sustainability and the living lab concept.

The bulk of the course will involve undertaking an applied research project on some aspect of campus sustainability, working in close partnership with operational staff at the University of Toronto. Students will develop the skills needed to work across disciplines and fields of study, and with non-academic partners. This course is offered through the School for the Environment.

JSE1708H The Development of Sustainability Thought

(J. Robinson)

This course will examine how attitudes towards human nature and non-human nature have changed over the period from Mesolithic times until the present in Western society. By reading and discussing historical arguments and contemporary documents we will attempt to uncover the underlying assumptions about the world that were characteristic of different periods in the history of Western culture. The underlying question is whether contemporary concerns about sustainability require fundamental changes in the way we conceive of ourselves and our environment. This course is offered through the Master of Global Affairs Program.

9.1.5 Urban and Economic Geography Courses

JPG1501H The Political Economy of Cities

(K. Rankin)

The physical form of cities is an expression of social and economic processes that are nested and mediated at a number of different spatial scales. The reinvestment of inner city neighbourhoods is, for example, a simultaneous expression of global labour market restructuring, regional housing supply, and personal preference, among other factors. This course addresses the political and multi-scalar context of contemporary urban forms through a selective treatment of the relevant literature. It begins with a brief overview of conventional notions of urban structure, continues with more recent critiques of these ideas, and concludes with a focus on the impact of globalization.

JPG1502H Global Urbanism and Cities of the Global South

(R. Narayanareddy)

In this course we will critically examine “global urbanism” while paying explicit attention to how cities of global South have been studied, understood and depicted in global urban research. In the past two decades, influential policymakers have promulgated the “global cities” paradigm, which frames 21st century urbanism in global terms. According to the “global cities” paradigm “global” cities of the North, such as New York, London and Tokyo are at the pinnacle of globalization. In contrast, cities of the global South are consistently portrayed as “mega” cities that are disorderly, polluted, chaotic, ungovernable, and marked by infrastructure collapse. In short, cities of the global South are mega cities with mega problems. In this course we will begin by examining policy-oriented as well as academic literature in order to understand how the global cities paradigm was given coherence and propagated across the world.

JPG1504H – Institutionalism and Cities: Space, Governance, Property & Power

(A. Sorensen)

This course focuses on the role of institutions in shaping processes of urban change, governance and planning. The premise of the course is that cities are extraordinarily densely institutionalized spaces, and that the formal study of institutions, and processes of institutional continuity and change will be productive for both planners and urban geographers. The course reviews the New Institutional literature in Political Science, Sociology, Economic Geography, and Planning Studies, with a focus on Historical Institutional concepts, and develops a conceptual framework for the application of institutional theory to urban space. The claim is that an understanding of institutions is revealing of power dynamics in urban governance, is valuable for understanding urban governance and planning in international comparative perspective, and provides a valuable perspective on urban property systems.

JPG1507H Housing Markets and Housing Policy Analysis

(L. Bourne)

The objective of this course is to provide an opportunity for in-depth analyses of housing, as both product and process, and to apply these analyses to concrete housing situations and current policy and planning problems. Two principal themes are emphasized: 1) assessments of changes in the structural and spatial dimensions of housing demand and supply, and alternative modes of housing provision; and 2) evaluations of housing policies and programs and their relationships to social and economic policies and urban planning. The latter will be undertaken primarily through the discussion of case studies of specific problems and policy issues, the former through a review of basic concepts on housing in the first few weeks of class.

JPG1508H Planning for the Urban Poor in Developing Countries

(A. Daniere)

This course covers public sector policies, programs and projects that target the urban poor in developing countries, particularly through attempts to improve their incomes through direct income-generating activities or employment and through the provision of basic environmental services. In addition the course examines planning for infrastructure services with an emphasis on the planning process.

JPG1510H Recent Debates on Urban Form

(A. Sorensen)

This course reviews three significant bodies of literature on the topic of urban growth and how to structure it, those of Growth Management, New Urbanism, and Sustainable City Form. Each offers a critique of recent patterns of urbanization, and proposes an alternate pattern of development, yet the problems identified and the approaches suggested vary widely. Participants will be encouraged to explore these differences.

JPG1512H Place, Politics and the Urban

(A. Walks)

The course examines the relationship between geography, politics, and governance. In particular, it seeks to interrogate the theoretical importance of place, space and urban form in the production of political and social values, practices, strategies, and discourses, and in turn, analyze the implications of the place-politics nexus for understanding shifts in the direction and form of urban policy, governance and citizenship. The course begins with a broad examination of the theoretical bases for linking place and politics, particularly as this relates to the construction of urban and non-urban places, with literature drawn from a number of sources, including geography, urban studies, political science, and planning theory. The course then examines a number of specific cases, from gentrification as a political practice, to the politics of homelessness and anti-panhandling legislation, and the political geography of regional planning and municipal amalgamation, that inform and challenge our understanding of the relationship between place and political praxis.

JPG1516H Declining Cities

(J. Hackworth)

Much of planning and urban thought more generally is implicitly or explicitly oriented around the idea of growth—growth allows cities to be managerial, gives them room for error, salves intra-constituency squabbles, etc. In the face of decline, the most common planning or urban theoretical response is to engage in economic development (that is, to reignite growth). But what about those cities (or sections of otherwise growing cities) that have declined in population or resources and remained healthy, pleasant, places to live? Can we learn something from their experience that allows us to rethink the way that cities decline, or what the professional response to it should be? What about those cities, conversely which retain an infrastructure footprint that was intended for a much larger city? Can they be downsized in a planned way? If so, what would such an effort (mobilizing the state to sponsor planned decline) mean for the bulk of urban theory that suggests that it is the state's role to reignite growth?

JPG1518H Sustainability and Urban Communities

(S. Bunce)

This course focuses on sustainability and communities and neighbourhoods in cities in North America and Europe, with some exploration of examples of community-based sustainability in cities in the global south. The intention of this course is to examine academic and policy discussion on urban sustainability and the contemporary context and future of urban communities, and will address socio-political dimensions of urban sustainability found in human geography and urban planning literatures, rather than focusing on physical or technical applications of sustainability principles.

JPG1525H Urban, Regional and Community Economic Development

(J. Spicer)

This course surveys urban, regional, and community economic development theories and planning practices, with a focus on North America in comparative perspective. Coverage includes orthodox and neoclassical theories from economic geography, urban economics, and political science/sociology, which provide the rationale for people-centric, place-based, and institutionally-oriented economic development plans and policies. Heterodox and community-oriented alternatives are also examined. Using real-life cases, we review cluster strategies, enterprise zones/districts, labour and capital relocation incentives, regional and anchor institution strategies, workforce development systems, community benefit agreements, living wage policies, local hiring/procurement preferences, and community/cooperative ownership models.

JPG1554H Transportation and Urban Form

(S. Farber)

The need to reduce automobile dependence and congestion has been argued widely in recent years, and urban form has been identified as a major aspect influencing choice of travel mode. The combined imperatives of sustainability, healthier cities, and worsening congestion has prompted an increasingly rich body of research on the relationships between urban form, transport infrastructure, and travel patterns, and an array of new methodological approaches to research them. This course critically examines this research and examines planning strategies that seek to influence travel through coordinated transport investment and land use and design control. Both regional and neighbourhood scale issues and strategies will be addressed. The geographic focus of the course will largely be metropolitan regions in Canada and the United States, but there will be opportunity to examine other national contexts.

JPG1558H The History and Geography of Cycles and Cycling

(R. Buliung)

The presence of cycling in cities has, for some, become the hallmark for the progressive city; progressive from a transport perspective. But how did we get to this point in the history of urban transportation and city life? Has it always been like this? Is more cycling a desirable outcome for everyone? Who cycles and who doesn't, and for what reasons? In one sense, this course addresses these very questions, while exploring several points of complex intersection between cycles and cycling and a range of social, economic, and political constructs/forces/processes that often operate at a range of scales. Adopting an historical and geographical lens, we will also consider the uneven way in which cycling seems to have fallen into and out of favour, locally, nationally, and globally over time.

This course will explore cycling's past and present using a range of resources and experiences (including some actual cycling in the city!) using a mixture of lectures, student lead seminars and presentations, and fieldwork. The course begins in the City of Toronto, with a focus on infrastructure planning and injury. The course will make use of cycle planning documents and reports available through the City of Toronto. Students will use fieldwork to identify and trouble infrastructure implementation and use. The history of cycling technologies, planning and infrastructure then comes into view, followed by an examination of points of intersection between cycles, cycling and identity(s) scaled from the body to the nation. Study of cycling and active transport more broadly then shifts toward the Global South.

JPG1605H The Post-Industrial City

(J. Hackworth)

In the mid-twentieth century, most cities in the Great Lakes basin were oriented around some form of heavy manufacturing. Forty to fifty percent of the labour force in major cities was involved in manufacturing. Urban form, development, growth patterns, and social conflict were often related to, if not centered on, the manufacturing economy. Since then, all major cities have experienced at least some turn away from heavy centralized manufacturing. This shift has altered the form, social structure, and labor forces of cities throughout the region (and others like it in the Global North). Yet while most acknowledge this shift, a great deal of urban theory and planning practice still revolves around ideas developed to understand the industrial city. This seminar is devoted to better understanding the post-industrial city. We focus on the post-industrial thumbprint of four areas: 1) socio-spatial polarization; 2) ethno-racial conflict; 3) land use challenges; and 4) socially equitable economic development.

JPG1607H Geography of Competition

(J. Miron)

In a market economy, how do firms come to be at the places where they produce, distribute, or sell their goods or services? How, when, and why does competition among firms as well as the impact of firm sitting on the sitting of their suppliers and customers, lead to localization (clustering) of firms in geographic space, the growth of some places (e.g., some cities or districts), and the decline of others? Such questions are central to an area of scholarship known as competitive location theory. A spatial (regional) economy incorporates "shipping costs" which include costs related to search, freight, insurance and brokerage, storage, installation and removal, warranty and service, and arbitrage profit. As a result, the effective or delivered price of a firm's products or inputs, inclusive of shipping costs, may well vary locally. This course focuses on how, as a result of competition, location and clustering shape and are shaped by local prices.

GGR1610H Geography of Finance and Financial Crisis

(A. Walks)

The rupture in the global economy following the collapse of Lehman Brothers in the United States brought to mainstream attention the important role played by finance, as well as the vulnerable ways that the global economy is linked together through financial instruments. This course seeks to understand the world of financial flows, intermediaries, and instruments, and how these may be related to the uneven geography of mortgage foreclosures, real estate inflation and deflation, bank bailouts, and government austerity programs. It explores how this geography of finance might be related to the production of financial crises, and how the global geography of international finance relates to the public finances of nations and municipalities, pension and hedge funds, and individual investors. The course begins by exploring the workings of international finance, and the literature on the geography of financialization and the globalization of finance. It then moves to examine the history and geography of financial crises, including both the current crisis and the great depression, to consider the different theories of financial crisis emanating from disparate political-economic-geographical perspectives, as well as the divergent policy implications that flow from such theories. The course then explores the literature regarding the localized effects of the geography of finance, from the cultural politics of homeownership, to the geography of sub-prime lending and foreclosures, deepening unemployment in European cities, and the geography of credit card debt, bankruptcies and defaults.

JPG1615H Planning the Social Economy

(K. Rankin)

What would it take to build a 'social economy,' an economy rooted in the principles of social justice, democratic governance and local self-reliance? What are the progressive and regressive implications of such an undertaking? JPG 1615 will explore these questions both theoretically and practically. Theoretically, with recourse to some canonical and more recent writings about the interface between 'society' and 'economy'. Practically, the course will look at what role municipal governments could and do play in building the social economy. The case of social

housing in the GTA serves as an example—as well as a context for learning about key tools in local economic development. The course will also consider how communities and neighbourhoods are growing increasingly active in developing alternative economic institutions, such as cooperatives, participatory budgets and community development financial institutions in order to institutionalize the social economy at the local scale.

JPG1616H The Cultural Economy

(D. Leslie)

This course examines the so-called “cultural turn” in economic geography, often referred to as “the new economic geography”. We will begin by considering various ways of theorizing the relationship between culture and economy. After reflecting upon the historical antecedents of contemporary understandings of this relationship, we will explore selected themes in the cultural economy literature such as cultural industries, consumption, economic discourse, work cultures, governmentality and commodity chains/actor networks.

JPG1617H Organization of Economies and Cities

(J. Miron)

This is a course about the urban economy. The emphasis is on understanding how agency (initiative) leads political actors in a state to make possible the conditions that give rise to an urban economy. I review and re-interpret fundamental models that explain how the operation of markets in equilibrium shapes the scale and organization of the commercial city in a mixed market economy within a liberal state. The course reviews classic models of the urban economy that are based on the work of Alonso, DiPasquale & Wheaton, Getz, Herbert & Stevens, Hurd, Lowry, Mills, Muth, Ripper & Varaiya, and Schlager, among others. The antecedents to these models can be traced back to the work of Andrews, Beckmann, Christaller, Clark, Cooley, Haig, Leontief, Polanyi, Power, Reilly, Thünen, Samuelson, and Tiebout. These models assume appurtenant property, contract, and civil rights. As befits the liberal state, such models also presume that individuals and firms are purposeful and have autonomy in these markets. These models raise questions about how and when does governance enable and facilitate markets, autonomy, and the urban economy in this way. Overall, the perspective of this course is that it is helpful to see governance (and hence the urban economy) as outcomes negotiated by political actors motivated by competing notions of commonwealth and aggrandizement.

GGR1620H Institutional and Evolutionary Economic Geography

(J. Zhang)

Both institutional and evolutionary perspectives have recently exerted enormous influence in economic geography, generating an explosion of research programs and publications. However, the literature remains highly fragmented, and there is still much ambiguity as to what it means to say that economic geography is institutional or evolutionary. Furthermore, evolutionary economic geography is yet to be made compatible with institutional and political perspectives, so that a multi-layered and multi-scalar evolutionary process can be conceptualized. This graduate seminar examines the frontier of the interdisciplinary literature on institutions and economic evolution. It is designed to develop a close dialogue between institutional and evolutionary economic geography, as well as between economic geography and other heterodox economics. It seeks to help students develop a critical angle to the existing literature, and a clear conceptualization of institutions and evolution from a geographic perspective.

JPG1660H Regional Dynamics

(R. DiFrancesco)

The space-economy has always been characterized by polarization across many dimensions. As a result, regional economic change has proved very difficult to fully explain using conventional theories and methods. This course examines the theoretical linkage between related trends of globalization, vertical disintegration, technological and organizational innovation, regional specialization, and the locational behaviour of firms. We will focus on the seemingly counter-intuitive finding that regional economic change in a time of increasing global interdependence is only becoming more dependent on the local context. Topics will include evolutionary economic geography, path

dependence, economic clusters, learning regions, the role of institutions, knowledge spill-overs, and the geography of innovation, among others. We will see why economic activity is becoming ever more concentrated in space even as it globalizes. Exclusion: GGR431.

JPG1814H Cities and Immigrants

(V. Kuuire)

Globalization processes and changes in immigration laws in recent decades have led to an upsurge in cross-border movement of people and ushered in sequential waves of immigration from various regions of the world to Canada and the U.S. Cities and their adjoining metropolitan areas are the biggest beneficiaries of these changing dynamics where immigrants are important contributors to economic growth and social reinvigoration. This course will examine the dynamics and changing patterns of immigrant integration in cities and urban locations. Topics of focus will include theories of immigrant integration, socio-spatial patterns of immigrant settlements in cities, labour market participation, socio-cultural identity formation and transnational engagements. The course will rely on contemporary examples and case studies to provide a deeper understanding of how immigrants are shaping dynamics within cities.

GGR1821H China Development Seminar

(A. Boland)

This seminar focuses on the question of 'development' in the context of contemporary China, with particular attention to the development logics guiding change in urban and rural landscapes from the 1950's to the present. We will examine the institutions, initiatives, and narratives that have reshaped built and natural environments. We will also examine the structures of (im)mobilities and community in relation to the urban and rural – as sites and governing categories. Finally, we will explore the question of the 'global' in China's development, both in the earlier socialist periods and in the present, a period marked by rapidly expanding forms of direct engagement with development elsewhere.

***POL2338H Innovation and Governance**

(H. Bathelt)

The course discusses a broad range of topics related to innovation and governance, such as (i) technological change and its social and economic consequences, (ii) the spatial effects which result from this, and (iii) the necessities for economic policies at different territorial levels. As the international competitiveness of industrial economies cannot be based on cost advantages alone, future growth in the knowledge-based economy will be increasingly associated with capabilities related to knowledge generation and innovation. As a consequence, questions of performance in innovation and policy support will become decisive at the firm, regional-state and national-state levels. This course is offered through the Department of Political Science.

9.1.6 Cultural/Historical/Social Geography Courses

JPG1503H Space, Time, Revolution

(K. Goonewardena)

This graduate seminar examines the relations between critical spatio-temporal and socio-spatial thought and new conceptions of radical politics. Its references are twofold: on the one hand, it surveys the recent attempts of such thinkers as Alain Badiou, Slavoj Žižek, Daniel Bensaïd, Jacques Rancière, Giorgio Agamben, Bruno Bosteels and Peter Hallward to re-theorize revolution in the face of global liberaldemocratic hegemony; on the other hand, it interrogates their conceptions of 'event', 'situation', 'dissensus', 'exception' and 'communism' in the historical court of actual revolutionary experiences produced by anti-colonial and socialist politics, especially at such moments as 1789, 1791-1803, 1848, 1871, 1917, 1949, 1968. The readings for this course will therefore draw on both contemporary theoretical texts and classic accounts of revolutionary subjectivity that highlight its spatio-temporal and socio-spatial dimensions, in the vein of Kristin Ross's *The Emergence of Social Space: Rimbaud and the Paris Commune* as much as Frantz Fanon's *The Wretched of the Earth*.

JPG1506H State/Space/Difference: Understanding the New Social Geography of the State

(S. Ruddick)

This course focuses on the new social geography of the state and social policy. A new “geography” of the state is emerging with the downloading of services to sub-national levels of government and the rise in importance of supranational institutions. This has raised questions about the hollowing out of the nation state and the real and imagined impacts of “globalization” on the politics of redistribution. A new “social geography” of the state is emerging as the “rescaling” of social policy brings with it increasing uncertainty about normative basis for policies of redistribution— as institutions contend with economic, cultural and political differences across (and within) national borders. The course focuses on approaches within political economy, with particular emphasis on the regulation school. Examples are primarily Western, with emphasis on Europe, the European Union and North America.

JPG1511H The Commons: Geography, Planning, Politics

(S. Ruddick)

Over the past two decades, “the commons” has increasingly become the subject of contestation in planning practices and conceptual framings. Approaches have alternately emphasized the need to privatization; regulation and collective management of public goods; to the commons as a co-production. Once thought to pertain exclusively to the purview of environmental planning and management of resources through common property regimes, discussions about the commons now inform a wide range of planning practices.

Taken up equally by organizations such as the World Bank and International Monetary Fund as a supplement to structural adjustment policies on the one hand, and the World Social Forum as a challenge to accumulation by dispossession, privatization and deregulation on the other, the idea of “commons”, “commoning” and the “commonwealth” frame discussions over the organization and control of collective resources now expanding well beyond historical origins in rural areas and their enclosure to a wide range of diverse practices in urban regions. Debates about the regulation – or destruction -- of the commons extend from management of farmland, conservation of wilderness and water to planning of libraries, public urban spaces and intellectual property.

JPG1520H Contested Geographies of Class-Race Formation

(M. Hunter)

How are spatial, racial, and class inequalities produced and contested in mutually constituted ways? Why are class inequalities always spatial and racial inequalities? We begin with two theorists who have had an enormous influence on writings on class: Karl Marx and Pierre Bourdieu (a third, Antonio Gramsci, will be considered through Stuart Hall). We follow this with key writings in the geographical traditions by Ruthie Gilmore, David Harvey, and Doreen Massey. I give priority to the race-class-power nexus through the work of Stuart Hall, Frantz Fanon, C L R James, Cedric Robinson, W E B Du Bois, and a number of exciting and relevant monographs.

JPG1672H Land and Justice

(T. Kepe)

Land carries a heavy weight of historical meaning. It has two broad meanings: the landscape valued for its natural resources (e.g. food production, raw material, living space etc.) and the territory with which a particular people identify. These meanings of land have implications on why anyone has interest in particular land, and how it is held and distributed. Similarly, how land was acquired and by whom, as well as how it is currently used, can determine its multiple meanings to different people and governments. There is extensive evidence that indicates injustice was central in many of the processes followed to acquire land in many nations, and that the way it is currently held or used, or redistributed remain unjust. This course focuses on justifications normally given for historical land injustices (including colonial land dispossession and other forms of land grabs), as well as an assessment of current strategies to deal with land injustices that are adopted by different nations. This is a reading-intensive course. The contact session takes the form of a class discussion based on the prescribed readings, with the instructor acting as

a facilitator, including making short introductory and concluding remarks. Each student is required to lead at least one or two discussion sessions. It is required that the readings for each session be done prior to coming to class.

GGR1705H Historical Geographies of Modernity

(M. Farish)

Building on critical assessments of the idea and influence of modernity, historical geographers have recently reconsidered subjects such as power and identity, human-environment relationships, and the genealogy of geographical thought. This course will treat modernity not just as a historical condition, but as a geographical project. Broad texts on modernity and its spatial dimensions will be read and discussed alongside a geographically diverse set of site-specific studies. Themes to be used for orientation include violence and anti-violence; science and empire; and cultures of modern urbanism.

JPG1706H Geographies of Violence and Security

(D. Cowen)

This course explores the shifting spatiality of organized violence, as well as changing theories of war and in/security. From the historical nationalization of legitimate war as a project of 'internal' and 'external' colonialism, to the disciplining of labouring bodies as part of the rise of geo- and bio-political forms, to the contemporary securitization of everyday urban life and the blurring of the borders of military and civilian, war and peace, and 'inside' and 'outside' state space, this seminar tracks the geographies of the political through the logistics of collective conflict. The course will examine perpetual, urban, and privatized forms of war that trespass modern legal, political, ontological, and geographical borders. Finally, we will explore problems of war 'at home'. How does the practice of war within the nation and the productive nature of war for domestic politics trouble our assumptions about the nation state, citizenship and 'normal' political space and time?

GGR1714H Geographies of Citizenship

(E. Gilbert)

The cultural turn that has seeped through the humanities and social sciences in the last several decades has had widespread effects: it has disabled older theories, epistemologies, methodologies, and even the organization of institutional disciplines. This course will critically examine the dimensions of this cultural turn in terms of the contemporary transformations to the study of cultural geography, and specifically the ways that our understanding of landscapes has been reconfigured. Cultural theories will be read up and against recent geographical writings. This strategy will also enable us to engage in a broader discussion of the role and uses of theory, of methodological forms and practices, of the dissemination and trajectory of ideas, and finally, of the politics of writing, research and the production of knowledge.

JPG 1804H Space, Power and Geography: Understanding Spatiality

(S. Ruddick)

The course charts new ways of thinking about space and power that are non-Cartesian, non-Hobbesian, and non-representational originating in divisions in Enlightenment thinking 400 years ago. Contemporary manifestations of this shift can be seen in the work of Foucault and Deleuze, Hardt and Negri, Bruno Latour their growing influence in geography manifest in geo-philosophy, non-representational space, emotional geographies, geographies of affect, politics of the multitude, networks and assemblages. The course explores the conceptual developments that give rise to this shift, introducing students to new ways of thinking about the nature of power, the nature of resistance, forms of social organization and mobilization, and the organization of space itself.

JPG1805H Transnationalism, Diaspora and Gender

(R. Silvey)

This seminar focuses on the politics of contemporary global migration processes with particular attention to the gender dimensions. It examines the geographic literature on transnationalism and diaspora to develop insight into the theoretical ramifications of critical political-economy, post-colonialism, post-structuralism, and feminism.

GGR1807H Geographies of Postcoloniality and Development: Exploring the Infrastructure Turn

(K. Rankin)

This course reviews recent scholarship in geography and critical development studies that seeks to investigate and theorize the significant role of infrastructure in shaping political, economic and social space, and also its efficacy as a genre of thinking. The course begins by revisiting the now-canonical literature on uneven development to capture some perspectives on what is at stake politically, and how best to conceptualize the development as a contested terrain of practice and representation. The remainder of the course explores insights that can be derived from interrogating development through an engagement with infrastructure—a key concern, and some would even argue even an epistemological ‘turn’—in human geography and planning literatures. Drawing on science and technology studies, mobility studies, critical development studies, and contemporary urban theory (especially as they manifest in scholarship with geography and planning), we will engage infrastructure as materiality, as method, as terrain of expertise, as complex socio-technical system, as powerful political address, and as a critical political field.

JPG1809H Spaces of Work: Value, Identity, Agency, Justice

(M. Buckley)

This course will introduce students to Marxist, feminist, anticolonial and intersectional perspectives on ‘work’ in the twenty-first century. A key intention of this course is to prompt students to examine what forms of work – and also whose work – has been taken into account in geographical scholarship and to explore a number of prominent debates concerning labour, work and employment within geography over the last three decades. In doing so we will engage with foundational political economy texts on the relations of labour under capitalism, and texts within geography and sociology on work, labour, place and space. We will also examine a number of broad economic and cultural shifts in the nature of contemporary work and employment such as de-industrialization, the feminization of labour markets and service sector work, neoliberalization and the rise of the ‘precariat’. At the same time, students will be prompted to consider critiques of some of these ‘transformational’ narratives to probe the colonial, patriarchal, and capitalist continuities shaping the contours of contemporary work. In this sense this is not an exhaustive course on labour and work in geography, but rather a series of discrete introductions to key scholarly arguments about work, often followed by a range of responses to those arguments in the following week. The course will touch on a broad range of topics, including unfree labour, labour organizing, precarious employment and social reproductive work which are tied together by four overarching themes that run through the course – value, identity, agency and justice. Overall this course aims to give students the chance to explore not only how work has been conceptualized and studied in geography, but how it could be.

GGR1811H Troubling Militarism: Space, Affect, Economy

(D. Cowen)

In this course we examine the spatial politics and affective economies of militarism. Our approach is feminist, queer, and geographical, and combines questions of geopolitical and geoeconomic inquiry. Rather than approach "militarism" as a coherent set of ideas and practices that must simply be opposed, resisted, or reversed somehow, we seek to trouble militarism and its affective mobilization. We will grapple with the violence of militarism, not only in the immediately martial practices that the term typically denotes, but also in the imperial and colonial political geographies out of which the modern use of the term arises, and through its everyday and banal attachments. The ultimate aim is to develop conceptual and theoretical tools to explain militarism, militarization, and militancy through a critical engagement with ideas of race, class, gender, identity, and difference. What are the historical connections between the practice of nationalism and imperialism and the rise of militarism? What are the economic and political factors tied to militarism throughout the world? How do the concepts of militarism, militarization, and militancy help us to rethink the geo-political economies of labour, war, and violence? How can we broaden statist approaches to militarism to draw critically from scholarly, journalistic, and creative engagements with social movements and resistance strategies? Can we extend our analysis to envisage a more expansive set of questions concerning militarism to include sexual politics, queer militancy, and martyrdom? When / does militancy exceed the militarism that help shape its form? Throughout the semester, we will fine-tune our

concepts and terminology to build a robust set of tools to trouble militarism, militarization, and militancy across time and space.

JPG1812Y Planning for Change

(Instructor TBD)

Planning for Change is a full-year service learning course that facilitates practical experience in community-engaged planning. You will be placed with an organization in the public or nonprofit sector for one day per week, on average, from September to April to work on a project in community development and planning that addresses the needs of your community partner. We meet as a class in a seminar format to support your work and learn from your experience. This is a challenging course that applies theory to practice (praxis). Our community partners value your work, and we maintain ongoing relationships with them. This placement can fulfill the internship requirement for MscPI students. The objectives of the service-learning placement are to allow graduate students to assist community groups or municipal planning departments in real-world community planning projects, to practice diverse planning skills, and begin to build longer-term commitments to communities and neighbourhoods throughout Toronto.

JPG1813H Planning and Social Policy

(S. Ruddick)

Concurrent with the shift from a Keynesian to a neo-liberal welfare state, community groups, ngos and a range of institutions are exploring different mechanisms for collective and collaborative community. New in the “how to” toolkit are discussions around the practice of “commoning.” Once thought to be restricted to forms of common land such as community land trusts, the new commons cover everything from public infrastructures such as libraries and water, to information technologies to community gardens. In this course we will explore the philosophies and practices around the emergence of a new commons as it is distinguished from other forms of collective distribution of goods such as “public goods,” “collective consumption” and “collaborative consumption.” Questions we will explore include the limits and possibilities of a commons for social transformation or cooptation, the challenges of scaling a commons.

JPG1815H Political Economy, the Body, and Health

(M. Hunter)

What are the health consequences of recent transformations in sexuality and intimate relationships? How are intimate geographies of disease spatialized? This course explores connections between intimacy, geography, and health particularly through the lens of sexually transmitted infections. The course takes as its starting point the recent turn from medical geography towards a more qualitative, theoretically driven, health geography. It draws from research in countries that include Papua New Guinea, the Dominican Republic, and South Africa.

9.1.7 Spatial Information Systems Courses

JPG1906H Geographic Information Systems

(D. Boyes)

This course provides an intensive introduction to fundamental geographic information system (GIS) theory, as well as practical, hands-on experience with state-of-the-art software. The course is designed to accommodate students from a variety of research backgrounds, and with no previous GIS experience. The goal is to provide students with a theoretical understanding of spatial data and analysis concepts, and to introduce the practical tools needed to create and manage spatial data, perform spatial analysis, and communicate results including (but not limited to) the form of a well-designed map. Assignments require the use of the ArcInfo version of ESRI’s ArcGIS software and extensions, and are designed to encourage proper research design, independent analysis, and problem solving. By the end of the course, successful students should be able to apply what they have learned to their own research, to learn new functions on their own, and have the necessary preparation to continue in more advanced GIS courses should they wish to do so. Classes consist of a two hour lecture each week, which integrate live software demonstrations to illustrate the linkages between theory and practice.

GGR1911H Remote Sensing

(J. Chen)

Advanced image processing, theory and applications of spatial resolution effects on classification, monitoring and interpretation of landscapes. From field spectrometric data to simulated images. *Exclusion: GGR337H (STG), GGR437H (UTM), GGR1912H.*

GGR1912 Advanced Remote Sensing

(Y. He)

This is an advanced remote sensing course emphasizing the quantitative approaches for the analysis of satellite remote sensing data. Examples of topics that may be covered include preprocessing of remote sensing data, bio-physical parameter extraction, linear feature extraction, conventional and object-oriented image classification, mapping uncertainty assessment, spatial statistical methods, change detection, and spatial-temporal modelling. For each of these topics, focus will be on the algorithms and technical details on how these image processing capabilities are implemented. After taking this class students will be able to actually implement the advanced remote sensing techniques to their own research, rather than just understanding the fundamentals.. *Exclusion: GGR337H (STG), GGR437H (UTM), GGR1911H.*

JPG1914H GIS Research Project

(D. Boyes)

Students will work in a group setting to explore the application of GIS techniques to a problem that crosses the boundaries of economic geography, physical geography, and planning. Students should discuss their backgrounds with the instructors before registering for the course. *Exclusion: GGR462 (STG).*

GGR1916H Remote Sensing of Vegetation Traits and Function

(J.Liu)

This course is offered in conjunction with GGR414H Advanced Remote Sensing. Building on GGR337H1 Environmental Remote Sensing (also offered as a graduate course GGR1911H), which covers the basic theories and techniques of optical and microwave remote sensing of the land surface, GGR1916H introduces advanced theories and techniques for land cover mapping, retrieval of vegetation structural and physiological traits, and remote sensing of vegetation light use efficiency and photosynthetic capacity. Diagnostic ecosystem models will also be introduced for terrestrial water and carbon cycle estimation using remote sensing data. Optical instruments for measuring vegetation structural parameters in the field will be demonstrated, and high-resolution remote sensing images acquired from a drone system will be used as part of the teaching material and lab assignments. For GGR1916H additional lectures will be offered on basic radiative transfer theories as applied to remote sensing of vegetation traits and function. *Exclusion: GGR414H (STG).*

10 Financial Support

The Department of Geography & Planning provides a base funding package to all PhD students for 4 years and all students in the Geography Master’s program for 1 year – students who are eligible to receive this package are in the “funded cohort”. (Professional program students, such as MSc Planning, are not eligible for inclusion in the funded cohort.)

In 2019-2020, the annual base funding package is \$17,500 plus tuition and incidental fees. This represents the base support provided; students have opportunities to secure funding in addition to the base amount.

Program	Base Package	Tuition Costs*	Total Funding*
MA/MSc domestic	\$17,500.00	\$7,850.90	\$25,350.90
MA/MSc international	\$17,500.00	\$26,046.90	\$43,546.90
PhD domestic	\$17,500.00	\$7,850.90	\$25,350.90
PhD international	\$17,500.00	\$8,486.90	\$25,986.90

*STG campus fees

10.1 Composition of the Funding Package

The funding package typically consists of a combination of external scholarships, University of Toronto fellowships or other internal awards, teaching assistant positions (at any of our tri-campus locations) and a research assistant position with the student’s supervisor. Students in the funded cohort will receive a funding letter at the start of the academic year which outlines the specific components of their funding package as well as payment details.

Students are expected to pursue their degree program as their full-time occupation (limit of employment to 10 hrs/week on average, including RA and TA) and must maintain good academic standing and make satisfactory progress toward completion of degree requirements to remain eligible for funding.

10.1.1 Funding for Students with External Scholarships

External scholarships (such as SSHRC, NSERC, OGS, etc.) are an important source of financial support for graduate students. Our students have been highly successful in obtaining these competitive and prestigious awards.

External scholarships are counted towards the base funding amount. If the scholarship is less than the base funding amount, the department will provide funds to bring total funding up to the base amount. For example, for a domestic student receiving an OGS award receives \$15,000 from the scholarship, the department provides \$8,350.90 to bring the package to the base amount of \$25,350.90 (or, \$17,500 plus tuition).

Students with an external scholarship generally can expect a reduction in the required teaching assistant and research assistant components of their funding package.

Most students who hold an external scholarship that does not cover the full base amount will receive a ‘top-up’ in addition to the base package. This top-up amount varies from year to year depending on available funds. Students who have a scholarship which exceeds the base funding amount (e.g. SSHRC CGS of \$35,000 or Vanier of \$50,000) do not usually receive a top-up.

10.1.2 Teaching Assistant Positions

Students holding teaching assistant (TA) positions provide a variety of services to undergraduate courses including marking assignments and running tutorials and laboratory sessions. These positions are considered both a source of funding and a form of professional training. Students may be expected to TA at any of our three campus locations (St. George/downtown, UTM/Mississauga and UTSC/Scarborough).

The maximum amount of teaching assistant work that can be included in the funding package in 2019-20 is \$8,200 (equivalent to 174 hours, paid at \$47.14/hourly, including 4% vacation pay).

PhD students are guaranteed five subsequent appointments, one each year for the same number of hours as their first or second appointment (whichever is greater). The department assigns subsequent appointments in May/June for the following academic year.

The remaining available TA jobs are posted and application instructions to incoming students in July. Students who do not apply for TA positions, or who decline positions they are offered are considered to have forfeited this funding and will have their funding package reduced accordingly. Students may apply for TA positions in addition to the hours assigned for their base package, however additional appointments are not guaranteed. Positions are posted throughout the year and are circulated to students as they become available.

10.1.3 Research Assistant Positions

Research assistant (RA) positions allow students to work on a funded research project. This provides an important opportunity for students to acquire first-hand experience that will be helpful in their academic careers. These positions make a positive contribution to graduate education and the graduate student experience. Sometimes the subject of their own research may differ from that of the project they are working on as an RA, but students will nevertheless benefit by having the opportunity to learn about new methods and literatures in geography.

The department typically includes a maximum of \$1,500 in RA work (to a maximum of 75 hours of work) toward the base funding package. These positions are funded through a supervisor's research grants. The specific tasks and terms/conditions (including hourly rate of pay, if applicable) for the position will be determined by the supervisor.

10.1.4 Payments

Different components of the funding package are paid via different methods according to varying schedules. The timing of payments will be specified in a funding letter provided to students in the funded cohort at the start of the academic year.

Students must be registered and maintain a current mailing address in the student web service/Acorn for award payments to be issued. Students are encouraged to also record their banking information in Acorn – otherwise cheques will be issued by mail or for pick-up.

Students must also provide their hiring unit with signed contracts/payroll forms/banking information for TA and RA for payroll to be set up. Instructions for required documentation is provided when students are issued contracts.

External Scholarships: Most external scholarships are paid through Acorn by the School of Graduate Studies (SGS), in equal instalments at the start of each session. E.g. a \$15,000 OGS award is paid in \$5,000 instalments at the start of September, January and May. September payments are issued directly to the student; January and May instalments are usually directed toward outstanding tuition and fees.

Internal Awards: Internal awards (such as departmental or SGS awards) may be paid in one instalment, or in equal instalments at the start of each session, depending on the value of the award. Payment details are typically provided within a funding or award offer letter.

U of T Fellowship: Students without major scholarships normally receive U of T Fellowship (UTF) Tuition Awards which are paid directly to their fees in two equal instalments at the start of the fall (September) and winter (January) sessions.

Students without major scholarship (and some with major scholarships that do not cover the full base package) receive UTF Stipend Awards paid through Acorn in equal instalments at the start of each session. E.g. a \$6,000 UTF

Stipend award is paid in \$2,000 instalments at the start of the fall (September), winter (January) and summer (May) sessions.

Teaching Assistant Positions: Teaching assistant salary is paid in equal instalments monthly for the duration of the position through the payroll system (HRIS) on the 28th of the month (or the preceding Friday if the 28th falls on a weekend). E.g. a student who has a 100 hour TA position (\$4,714.00) from September – December will be paid for 25 hours (\$1,178.50) at the end of September, October, November, and December. Students will receive a contract for each position they are assigned to and can access payroll statements using the Employee Self-Service (ESS).

10.2 Additional Funding

Some students are successful in securing additional TA work, Course Instructor positions (usually after achieving PhD candidacy), and extra RA work to supplement their income, though additional funding is not guaranteed. Students can also apply for internal awards and scholarships through the department, Arts & Science and SGS (information on such opportunities will be forwarded to students as they are announced throughout the year).

Funding for travel and conference attendance and some research expenses is also available through the department and from SGS (information and application instructions are forwarded to students in the fall or spring of each year). This funding varies depending on the number of applications and the pool of funds available each year. In some cases, a supervisor may also be able to provide funding for such expenses.

10.3 Funding Beyond the Funded Cohort

Students who are beyond the funded cohort (Masters students year 2+ and PhD students years 5+) are expected to pay full tuition fees.

Through the Faculty of Arts & Science Program Level Fellowship program, each student who does not hold a major scholarship the following year will receive a lump sum payment in the summer before they leave the funded cohort. The value of the fellowship varies each year depending on total funds available and the number of students who are eligible to receive funding.

Master's students who are expecting to register beyond 1 year are strongly encouraged to apply for external scholarships such as CGS-Masters and OGS scholarships to fund their second year in the program. Applications for these awards must be made in year 1 of the program. Information on deadlines and instructions are forwarded by email as details become available.

PhD students who do not hold major scholarships are eligible to receive the Doctoral Completion Award (DCA) in years 5 and 6. The value of the DCA varies each year depending on funds available and the number of students who are eligible to receive funding, with international students receiving a larger amount in proportion to their fees. Information on eligibility and payment is forwarded by email as details become available in the summer. PhD students are also guaranteed TA positions in years 5 and 6 at the same number of hours as their 1st or 2nd appointment (subsequent appointments).

All students beyond the funded cohort are encouraged to apply for and accept TA positions in geography (at all three campuses) and in cognate units (School for the Environment, City Studies, etc.). In some cases, RA positions may also be available either with their supervisor or with other faculty members. RA positions are not normally posted; students are generally able to find such positions through word-of-mouth from their supervisor, committee members or course instructors.

Graduate students who are members of CUPE 3902 Unit 1 (the bargaining unit representing TAs) may be eligible for other bursaries and funds through their union.

10.4 Average Income and Time to Completion

SGS publishes information on the average income for graduate students after tuition at <http://www.sgs.utoronto.ca/gradfunding/Pages/GGR.aspx>. This information was collected in 2014 at a time when the base funding level was at a lower level (\$15,000 plus tuition).

As of 2018, the average time to completion for each program was as follows:

- PhD programs = 5.7 years
- Master's programs = 1.7 years

10.5 Scholarships and Fellowships

Current students and eligible prospective students are expected to apply for external scholarships/fellowships. Students in the Department of Geography & Planning compete successfully for a variety of scholarship and fellowship support, both within and outside the University. Some scholarship funds are restricted to Canadian citizens or landed immigrants, others are restricted to foreign students from specific countries or groups of countries, while still others are restricted to students with particular research interests. Students will be advised by the graduate office of available scholarships and application deadlines by email as opportunities are announced each year.

Further information on different scholarships and awards is available at <https://www.sgs.utoronto.ca/awards/>.

The following are among the main types of scholarships or fellowships available.

10.5.1 External Scholarships

All eligible prospective and current students are expected apply for external awards or scholarships. Students must be alert to all of the requirements pertaining to applications for the following year. These include filling out the necessary forms, and obtaining letters of recommendation.

A list of major external scholarships is detailed below.

Award	Description	Value
Ontario Graduate Scholarship (OGS)	The Ontario Graduate Scholarship (OGS) program encourages excellence in graduate studies at the master's and doctoral levels. It is a merit-based award.	\$15,000 per year
SSHRC, NSERC or CIHR Canada Graduate Scholarship – Master's (CGS-M)	The objective of the Canada Graduate Scholarships-Master's (CGS M) Program is to help develop research skills and assist in the training of highly qualified personnel by supporting students who demonstrate a high standard of achievement in undergraduate and early graduate studies. The Tri-council allocates CGS M awards to universities specifying the number of awards that each may offer to their students annually. CGS M awards can only be offered to students pursuing graduate studies at eligible Canadian universities, and the award must be held at the university that has made the offer.	\$17,500 per year
SSHRC, NSERC or CIHR Canada Graduate Doctoral Scholarship (CGS-D)/ Doctoral Award	The objective of the Canada Graduate Scholarships—Doctoral Award program is to promote continued excellence in Canadian research by rewarding and retaining high-calibre doctoral students at Canadian institutions. By providing support for a high-quality research training experience to awardees, the program strives to foster impacts within and beyond the research environment.	\$35,000 per year (CGS-D) for 3 years \$20,000 per year (Doctoral Award) for up to 4 years
Vanier Canada Graduate Scholarship	The Vanier CGS program aims to attract and retain world-class doctoral students by supporting students who demonstrate both	\$50,000 per year for 3 years

Award	Description	Value
	leadership skills and a high standard of scholarly achievement in graduate studies in social sciences and humanities, natural sciences and engineering, and health. Students wishing to apply for a Vanier CGS must do so through the Canadian university to which they are applying for doctoral studies.	
Trudeau Foundation Scholarship	The Pierre Elliott Trudeau Foundation Scholarship Program will help shape researchers into engaged leaders who are conscious of the impact of their research, connected to the realities of the communities in which they work, and open to non-conventional forms of knowledge. The Foundation is seeking candidates who are audacious, original, and forward-thinking.	\$40,000 per year for 3 years plus a research and travel allowance

10.5.2 Internal Scholarships

In addition to externally funded scholarships, students may apply for various awards available through the University of Toronto, listings are available at:

- Department of Geography & Planning Awards: <https://geography.utoronto.ca/graduate-geography/funding/internal-awards/>
- Faculty of Arts & Science Awards: <https://www.artsci.utoronto.ca/graduate/scholarships-awards/graduate-scholarships>
- School of Graduate Studies Awards: <https://www.sgs.utoronto.ca/awards/>

10.5.3 Travel and Conference Funding

Various sources of funding are available to support student travel for research purposes and to attend conferences. Deadlines and application instructions will be forwarded by email when the funds become available.

Department of Geography & Planning Research and Conference Travel Funding: The department provides modest support to support to cover costs associated with field research and conference attendance. Amounts granted to individual students vary depending on the available funds and the number of applicants. Students who are affiliated with UTM must apply to a UTM administered fund. All other students may apply for funds through the graduate office based at St. George campus.

SGS Travel Grant: The SGS research travel grant is available to help fund travel for doctoral students within Divisions I and II only for whom travel is essential for the completion of their research and doctoral program. Please note that travel to conferences is not eligible within this grant. Grant values vary. Not all projects are funded and the funding awarded may not cover the entire amount requested by the applicant.

SGS Conference Grant: The SGS conference grant provides modest financial support to eligible students who will be actively presenting their research at an academic conference. Two application cycles occur every year (Winter/Spring and Fall). Because this grant serves as supplemental funding for the proposed conference, applicants are expected to seek out additional funding from other sources.

11 Policies and Guidelines

There are numerous policies and guidelines affecting graduate studies. These appear on the SGS Web site at <https://www.sgs.utoronto.ca/policies-guidelines/>.

- Graduate Grading Policy
- Intellectual Property
- Research Ethics
- Academic Sanctions for Students With Outstanding Obligations to the University
- Code of Behaviour on Academic Matters
- Sexual Harassment
- Code of Student Conduct
- Appropriate Use of Information and Communication Technology
- Statement on Human Rights

Furthermore, University of Toronto-wide policies affecting students are available at www.governingcouncil.utoronto.ca/policies.htm.

11.1 SGS Calendar

The SGS Calendar describes the broad range of graduate study opportunities available at the University of Toronto. It also contains policies and procedures related to graduate studies. The calendar is divided into five major sections.

- General Regulations
- Degree Regulations
- Fee Regulations
- Financial Support
- Graduate Programs

The SGS Calendar is available online at <https://sgs.calendar.utoronto.ca/>.

11.2 Ethics Review

The University of Toronto requires that all graduate student and faculty research involving human subjects be reviewed and approved by the relevant institutional Research Ethics Boards (REBs) before work can begin. Although research methodologies differ, the fundamental ethical issues and principles in research involving human subjects are common across all disciplines.

Research involving human subjects includes:

- Obtaining data about a living individual through intervention or interaction with the individual, or the obtaining of private personal information about the individual.
- Secondary use of data (i.e. information collected for purposes other than the proposed research) that contains identifying information about a living individual, or data linkage through which living individuals may become identifiable.
- Naturalistic observation, except the observation of individuals in contexts in which it can be expected that the participants are seeking public visibility.

The University of Toronto has five Research Ethics Boards (REBs) that meet monthly to review ethical protocols from faculty members and graduate students of the departments that they serve. The Office of Research Ethics is part of the Office of the Vice-President, Research and Associate Provost, and functions to assist researchers through the ethical review process and to provide administrative support to the Research Ethics Boards (REBs). The REB that covers Geography research is the Social Sciences and Humanities Ethics Review Committee.

It is mandatory that all projects involving human subjects receive ethical approval before commencing any research activities, including recruitment, pre-screening or pilot trials. The ethical process for each protocol is slightly different (dependent on ethical issues inherent to research methodology, subject population, research question, etc.) and may take several weeks to months for final approval. Clarification and revisions to original submissions are common, and are handled as quickly and efficiently as possible. Understanding the issues and receiving proper guidance and supervision in the crafting of both the research study and the ethical protocol can minimize turn-around time.

The SGS Student Guide on Ethical Conduct, Research Involving Human Subjects is available at <https://www.sgs.utoronto.ca/policies-guidelines/research-involving-human-subjects/> and provides an overview of the policy and requirements.

Detailed research ethics policies, application procedures, and all the information and resource materials needed to submit an ethics protocol for review are available at <http://www.research.utoronto.ca/>.

11.3 Academic Offences

Students in graduate studies are expected to commit to the highest standards of integrity and to understand the importance of protecting and acknowledging intellectual property. It is assumed that they bring to their graduate studies a clear understanding of how to cite references appropriately, thereby avoiding plagiarism. The student's thinking must be understood as distinct from the sources upon which the student is referring. Two excellent documents entitled *How Not to Plagiarize* and *Deterring Plagiarism* (of interest to students and faculty respectively) are available for reference on the SGS website or from the department.

The University's understanding of plagiarism is found in the Code of Behaviour on Academic Matters (available on the Governing Council website) and includes the following statements:

It shall be an offence for a student knowingly:

(d) to represent as one's own idea or expression of an idea or work of another in any academic examination or term test or in connection with any other form of academic work, i.e., to commit plagiarism.

Wherever in the Code an offence is described as depending on "knowing", the offence shall likewise be deemed to have been committed if the person ought reasonably to have known.

Other academic offences include the possession and/or use of unauthorized aids in examinations, submitting the same paper for different courses, to name only a few of the most obvious violations. Please refer to the Code of Behaviour on Academic Matters for detailed descriptions of offences and procedures.

Violations of the Code of Behaviour on Academic Matters by graduate students are taken very seriously. Following procedures outlined in the Code, cases involving graduate students are handled by the Chair of the Graduate Department and the Dean of the School of Graduate Studies. Students are encouraged to inquire of their departments about specific practices in their discipline related to appropriate citation practices. It is the responsibility of the student to be informed and to "cite it right".

Further information is found at <https://www.sgs.utoronto.ca/policies-guidelines/academic-integrity-resources/>.

11.4 Field Research and Field Safety

Field research by graduate students consists of activities conducted for the purposes of study or research. Such activities can take students to various locations across the city, country, or world. In some cases, field research can expose participants to significant risks to their health, safety or well-being, at locations outside the direct supervisory control of the University. For example:

- Work involving isolated or remote or politically unstable locations;
- Extreme weather conditions;
- Hazardous terrain;
- Harmful wildlife;
- Lack of ready access to emergency services.

Some field research activities may not impose risk beyond those experienced in daily life, and as such, are deemed to be low risk activity. For example, collection of data in the vicinity of campus or in settings encountered on a day-to-day basis.

Academic supervisors are expected to exercise appropriate discretion in evaluating risks.

11.4.1 Procedures

1. Students and supervisors are required to meet prior to undertaking field research to ensure the following:
 - a) All concerned parties are aware of their responsibilities for field research and adhere to the Guidelines on Safety in Field Research;
 - b) A risk assessment is carried out to identify potential hazards associated with the field research and to establish appropriate controls to eliminate or minimize such hazards; and
 - c) All participants have an informed understanding of the associated risks and provide their consent to assuming the risks of participation.
2. Where proposed activities expose students to significant risks as described above, the supervisor is responsible for ensuring the following documents are completed, signed and submitted to the Graduate Administrator for inclusion in the student's official records:
 - a) Field Safety Planning Record;
 - b) Consent and Liability Waivers.

Please note that these are not required for low risk activities as described above.

3. In cases where research activities take place outside of Canada, the student must also adhere to the Travel Abroad Policy and complete the Safety Abroad Office workshop and registration.

Please visit the Environmental Health and Safety Field Research website at <https://ehs.utoronto.ca/home/i-am-a-student/> for additional resources, including:

- Framework on Off-Campus Safety, <http://ehs.utoronto.ca/wp-content/uploads/2015/10/Policy-on-the-Framework-on-Off-Campus-Safety.pdf>
- Guidelines on Safety in Field Research, <http://ehs.utoronto.ca/wp-content/uploads/2015/10/Guidelines-on-Safety-in-Field-Research.pdf>
- Field Research Safety Planning Record, https://ehs.utoronto.ca/wp-content/uploads/2015/02/Field-Research-Safety-Planning-Record_6-March-2019_Form.pdf
- Consent and Liability Waivers, http://ehs.utoronto.ca/wp-content/uploads/2015/02/Field-Research-Safety-Planning-Record_6-March-2019_Form.pdf

11.5 Travel Abroad

Students who plan to travel outside of Canada to conduct research, fieldwork, attend conferences or participate in any activities related to their graduate study (all of which are considered 'U of T sponsored activities') must register with the Safety Abroad Office (SAO) following the steps below at least one month prior to travel. The Safety Abroad Office works with students, staff and faculty to minimize risk by:

- Providing Safety Abroad Workshops
- Monitoring security situations
- Assisting students with emergencies abroad
- Offering 24/hr Emergency line

11.5.1 Steps to Have Travel Approved

All students must complete the following steps at least one month before travel:

1. Register with the Safety Abroad Database by completing the online form. (Students travelling on a program activity – i.e. field trip – will be contacted by the department for registration information).
2. Attend a mandatory Safety Abroad Workshop.
3. Complete and return the Consent and Liability Terms of Participation Waivers to the SAO.
4. Obtain supplementary travel health insurance. Review any existing health coverage, for example through your student union or UTGSU. Be sure that it is sufficient for your needs, and confirm and/or activate your insurance.
5. Students going abroad for an independent field trip or research may wish to develop the Safety Planning Record, which can be reviewed and approved by your supervisor and submitted to the Geography & Planning Graduate Administrator for the Graduate Chair's approval.

If you are planning to travel to a high risk destination (where Global Affairs Canada advises people to avoid non-essential or avoid all travel), additional steps are required. See <http://www.studentlife.utoronto.ca/cie/high-risk-travel> for instructions.

Students who do not follow these steps and who have not received SAO approval for travel will not receive credit for research conducted (i.e. research cannot be used toward thesis/MRP/dissertation or other academic projects) and will not receive University funding for their trip.

Visit the Safety Abroad website at <http://www.studentlife.utoronto.ca/cie/safety-abroad> for further information.

11.6 Official Correspondence

The University and its divisions may use the postal mail system and/or electronic message services (e.g., electronic mail and other computer-based on-line correspondence systems) as mechanisms for delivering official correspondence to students.

Official correspondence may include, but is not limited to, matters related to students' participation in their academic programs, important information concerning University and program scheduling, fees information, and other matters concerning the administration and governance of the University.

The University provides centrally-supported technical services and the infrastructure to make electronic mail and/or on-line communications systems available to students. University correspondence delivered by electronic mail is subject to the same public information, privacy and records retention requirements and policies as are other university correspondence and student records.

Students are responsible for maintaining and recording in the Student Web Service a current and valid postal address as well as the address for a University-issued electronic mail account. Students are expected to monitor

and retrieve their mail, including electronic messaging account(s) issued to them by the University, on a frequent and consistent basis. Students have the responsibility to recognize that certain communications may be time-critical. Students have the right to forward their University-issued electronic mail account to another electronic mail service provider address but remain responsible for ensuring that all University electronic message communication sent to the official University-issued account is received and read. Failure to do so may result in a student missing information and will not be considered an acceptable rationale for failing to receive official correspondence from the University.

12 Resources for Students

Resources included below are some of the main supports available to students, this is not intended to be an exhaustive list of all services available.

12.1 Student Services and Support

- **Student Life:** Offers a wide range of additional programs and services for all students:
<http://www.studentlife.utoronto.ca/>
- **Student Affairs & Services:** Offers a wide range of programs, services and initiatives to enhance quality of life and learning experiences beyond the classroom at **UTM Campus:**
<https://www.utm.utoronto.ca/sas/student-affairs-services>
- **Student Affairs & Services:** Offers a wide range of programs and services for students at **UTSC Campus:**
<https://www.uts.utoronto.ca/studentaffairs/>
- **Indigenous Student Services:** First Nations House provides culturally-relevant services to Indigenous students that support and unite academic success with personal growth and leadership development. We offer learning opportunities for all students to engage with Indigenous communities, within the University of Toronto and beyond. <http://www.studentlife.utoronto.ca/fnh>
- **Academic Success Centre:** A team of dedicated professionals from diverse academic backgrounds can help you develop the skills, strategies and competencies that you need to succeed. Open to students from all faculties and disciplines (undergraduate or graduate). <http://www.studentlife.utoronto.ca/asc>
- **Anti-Racism & Cultural Diversity Office:** The Anti-Racism & Cultural Diversity Office serves faculty, staff and students in various ways to help facilitate a supportive environment within which to live, learn and work. <http://antiracism.utoronto.ca/>
- **Career Centre:** Explore career possibilities, learn about the latest job-search strategies, or build on your professional skills through the Career Centre. <http://www.studentlife.utoronto.ca/cc>
- **Family Care Office:** The Family Care Office provides confidential guidance, resources, referrals, educational programming and advocacy for the University of Toronto community and their families. <http://www.familycare.utoronto.ca/>
- **Sexual & Gender Diversity Office:** Innovative education, programming, resources and advocacy on sexual and gender diversity for students, staff and faculty across the University's three campuses. <http://sgdo.utoronto.ca/>
- Links to various other student services and support:
<http://www.sgs.utoronto.ca/currentstudents/Pages/Services-for-Students.aspx>

12.2 International Student Resources

- **Centre for International Experience:** The Centre for International Experience serves international students coming to U of T (transition advising, information on applying for study permit, etc.).
<http://www.studentlife.utoronto.ca/cie>
- **On Campus Services for International Graduate Students:** <https://www.sgs.utoronto.ca/international-portal/on-campus-services/>
- **English Language Support:** Resources for non-native speakers of English.
<https://www.sgs.utoronto.ca/resources-supports/gcac/>

12.3 Health & Wellness

- **Graduate Student Wellness Portal:** Directory of services, resources and academic supports for graduate students. <https://www.sgs.utoronto.ca/resources-supports/wellness-portal/>
- **Health & Wellness Centre:** Offers students a wide range of services to help support them in achieving their personal and academic best. <http://www.studentlife.utoronto.ca/hwc>

12.4 Accessibility Services

- The Accessibility Services Office works with students to implement academic accommodations, adaptive technology and provide other disability-related supports and services. <http://www.accessibility.utoronto.ca/>

12.5 Financial Aid and Advising

- The SGS Financial Aid office provides emergency grants, loans or bursaries to students in need. The SGS Financial Advisor is trained to assist currently registered students in all aspects of financial management, including planning a budget and debt load management. See <https://www.sgs.utoronto.ca/awards-funding/financial-aid-advising/> for further information.
- **Financial Planning Calendar:** Tool to assist students to budget for their year at U of T: <https://planningcalc.utoronto.ca/financialPlanner/#/>

12.6 Professional Development

- The department offers an in-house professional development series. There are also a variety of workshops and programs across the University. Event announcements will be circulated to students by email.
- **Graduate Centre for Academic Communication:** Provides graduate students with advanced training in academic writing and speaking. <https://www.sgs.utoronto.ca/sgs-home/resources-supports/gcac/>
- **Graduate Professional Development Program:** GPD programs and events can help students communicate better, plan and manage time, learn entrepreneurial and leadership skills, and understand and apply ethical practices. <https://www.sgs.utoronto.ca/resources-supports/gpd/gps/>