Geography

Program Requirements
M.A. Geography (5.0 credits)

Requirements:
1. 0.5 credit in:
   GEOG 5000 [0.5] Approaches to Geographical Inquiry
2. 2.5 credits in:
   GEOG 5909 [2.5] M.A. Thesis (which must be defended at an oral examination)
3. 0.5 credit in:
   GEOG 5905 [0.5] Masters Research Workshop
4. 1.0 credit from:
   GEOG 5002 [0.5] Quantitative Analysis for Geographical Research
   GEOG 5003 [0.5] Critical Approaches to Qualitative Inquiry
   GEOG 5005 [0.5] Global Environmental Change: Human Implications
   GEOG 5006 [0.5] Special Topics in Geography of the Environment
   GEOG 5201 [0.5] Special Topics in the Geography of Development
   GEOG 5400 [0.5] Territory and Territoriality
   GEOG 5406 [0.5] Special Topics in Cultural Geography
   GEOG 5500 [0.5] Special Topics in the Study of Cities and Urbanization
   GEOG 5502 [0.5] Special Topics in Geography of Globalization
   GEOG 5600 [0.5] Empire and Colonialism
   GEOG 5803 [0.5] Seminar in Geomatics
   GEOG 5804 [0.5] Geographic Information Systems
   GEOG 5900 [0.5] Graduate Tutorial
   ENST 4006 [0.5] Environmental Policy Analysis
   GEOG 4004 [0.5] Environmental Impact Assessment
   GEOG 4021 [0.5] Seminar in Culture, Identity and Place
   GEOG 4022 [0.5] Seminar in People, Resources and Environmental Change
   GEOG 4023 [0.5] Seminar in Special Topics on the City
   GEOG 4024 [0.5] Seminar in Globalization
   GEOG 4040 [0.5] Geographic Thought
   GEOG 4050 [0.5] Environmental and Geographic Education
   GEOG 4303 [0.5] Urban Planning
   GEOG 4304 [0.5] Transportation Engineering and Planning
   GEOM 4008 [0.5] Advanced Topics in Geographic Information Systems
   Or from courses offered by departments in the Faculties of Arts and Social Sciences or Public Affairs and Management
5. 0.5 credit in free elective

Total Credits 5.0

M.A. Geography with Specialization in African Studies (5.0 credits)

Requirements - Thesis option (5.0 credits)
1. 0.5 credit in:
   AFRI 5000 [0.5] African Studies as a Discipline: Historical and Current Perspectives
2. 0.0 credit in:
   AFRI 5800 [0.0] Scholarly Preparation in African Studies
3. 1.0 credit in:
   GEOG 5000 [0.5] Approaches to Geographical Inquiry
   GEOG 5905 [0.5] Masters Research Workshop
4. 2.5 credits in:
   GEOG 5909 [2.5] M.A. Thesis (in the specialization and including oral examination of the thesis)
5. 1.0 credit in approved graduate-level electives

Total Credits 5.0

M.Sc. Geography (5.0 credits)

Requirements:
1. 0.5 credit in:
   GEOG 5001 [0.5] Modeling Environmental Systems
2. 0.5 credit in:
   GEOG 5905 [0.5] Masters Research Workshop
3. 2.5 credits in:
   GEOG 5906 [2.5] M.Sc. Thesis (must be defended at an oral examination)
4. 1.0 credit in Physical Geography selected from:
   GEOG 5002 [0.5] Quantitative Analysis for Geographical Research
   GEOG 5103 [0.5] Hydrologic Principles and Methods
   GEOG 5104 [0.5] Advanced Biogeography
   GEOG 5107 [0.5] Field Study and Methodological Research
   GEOG 5303 [0.5] Geocryology
   GEOG 5307 [0.5] Soil Resources
   GEOG 5803 [0.5] Seminar in Geomatics
   GEOG 5804 [0.5] Geographic Information Systems
   GEOG 5900 [0.5] Graduate Tutorial
   GEOG 4004 [0.5] Environmental Impact Assessment
   GEOG 4013 [0.5] Cold Region Hydrology
   GEOG 4017 [0.5] Global Biogeochemical Cycles
   GEOG 4101 [0.5] Two Million Years of Environmental Change
   GEOG 4103 [0.5] Water Resources Engineering
   GEOG 4104 [0.5] Microclimatology
   GEOG 4108 [0.5] Permafrost

6. In addition to the formal requirements, M.A. students are required to attend the Departmental Seminar series, and the Graduate Field Camp.

Total Credits 5.0
GEOM 4003 [0.5] Remote Sensing of the Environment
GEOM 4008 [0.5] Advanced Topics in Geographic Information Systems

Or from courses offered by departments in the Faculty of Science

5. 0.5 credit in free elective 0.5

6. In addition to the formal requirements, M.Sc. students are required to attend the Departmental Seminar Series, and the Graduate Field Camp.

Total Credits 5.0

Notes
1. Only 0.5 credit towards the program may be obtained in GEOG 5900 Graduate Tutorial
2. Only 0.5 credit may be obtained at 4000 level.

M.Sc. Geography with Specialization in Data Science (5.0 credits)

Requirements
1. 0.5 credit in:
   DATA 5000 [0.5] Data Science Seminar
2. 0.5 credit in:
   GEOG 5001 [0.5] Modeling Environmental Systems
3. 0.5 credit in:
   GEOG 5905 [0.5] Masters Research Workshop
4. 1.0 credit in Physical Geography selected from:
   GEOG 5002 [0.5] Quantitative Analysis for Geographical Research
   GEOG 5103 [0.5] Hydrologic Principles and Methods
   GEOG 5104 [0.5] Advanced Biogeography
   GEOG 5107 [0.5] Field Study and Methodological Research
   GEOG 5303 [0.5] Geocryology
   GEOG 5307 [0.5] Soil Resources
   GEOG 5603 [0.5] Seminar in Geomatics
   GEOG 5804 [0.5] Geographic Information Systems
   GEOG 5900 [0.5] Graduate Tutorial
   up to 0.5 credit in GEOG or GEOM at the 4000 level, with departmental approval
5. 2.5 credits in:

6. In addition to the formal requirements, M.Sc. students are required to attend the DGES Departmental Seminar series, and the Graduate Field Camp.

Total Credits 5.0

Ph.D. Geography with Specialization in Political Economy (10.0 credits)

Requirements
1. 1.0 credit in:
   GEOG 6000 [0.5] Doctoral Core Seminar: Geography, Society and the Environment
   GEOG 6001 [0.5] Doctoral Core Seminar: Geography, Society and the Environment
2. 0.5 credit in:
   PECO 6000 [0.5] Political Economy: Core Concepts
3. 0.5 credit from:
   GEOG 6003 [0.5] Field Seminar: Geography of Societal Change
   GEOG 6004 [0.5] Field Seminar: Geography of Societal Change
4. 0.0 credit from:
   GEOG 6906 [0.0] Comprehensive Examination: The Geography of Societal Change
   GEOG 6907 [0.0] Comprehensive Examination: The Geography of Environmental Change
5. Presentation and oral defence of the thesis proposal as outlined below
6. 8.0 credits in Thesis which must be defended at an oral examination
7. In addition to the formal requirements, Ph.D. students are required to attend the Departmental Seminar series and the Graduate Field Camp.

Total Credits 10.0

Comprehensive Examination
Each doctoral candidate is required to write one comprehensive examination: GEOG 6906 or GEOG 6907, according to the chosen field of specialization

The comprehensive examination must be completed after course requirements for the Ph.D. have been completed. The examination will occur no later than the fourth term of registration in the Ph.D. program. Failure to complete the
examination successfully will result in denial of permission to continue in the program.

Thesis Proposal
Candidates normally register in the thesis on entry to the program and work actively to define their research topic during the first term of registration. The thesis proposal is normally presented after comprehensive requirements have been fulfilled. Candidates submit and defend the thesis proposal at an oral examination no later than the end of the 5th term of registration in the Ph.D. program. Continuous registration is required after initial registration in the thesis.

Residence Requirements
All Ph.D. candidates must be registered full time in a minimum of six terms to satisfy the residence requirement.

Regulations
See the General Regulations section of this Calendar.

Admission Requirements
The requirement for admission into the master's program is a B.A.(Honours) or B.Sc. (Honours) in Geography or a related discipline, with at least B+ standing.

In exceptional cases, pertinent work experience may be considered in support of an application to the Department. Students entering the program from other disciplines or with academic deficiencies may be required to take additional courses.

Accelerated Pathway
The accelerated pathway in the M.A. Geography program is a flexible and individualized plan of graduate study. Students in their final year of a Carleton B.A. or B.Sc. Honours degree in Geography, Geomatics, Environmental Studies or related discipline with demonstrated academic excellence and aptitude for research may qualify for this option.

Students in their third-year of study should consult with both their Undergraduate Program Coordinator and the Department of Geography & Environmental Studies Graduate Program Supervisor to determine if the accelerated pathway is appropriate for them and to confirm their selection of courses for their final year of undergraduate studies.

Accelerated Pathway Requirements
1. At least 0.5 credit in GEOG courses (5000 level) with a grade of B+ or higher excluding GEOG 5000, GEOG 5001 and GEOG 5905.
2. Minimal overall CGPA of A-.

Students may receive advanced standing with transfer of credit of up to 1.0 credit, which can reduce their time to completion.

Admission
The normal requirement for admission to the Ph.D. program is a master's degree (or the equivalent) in geography, with at least an A- average.

A student already registered in the M.A. or M.Sc. program who shows outstanding academic performance and research promise may be permitted to transfer to the Ph.D. program with a recommendation by the Departmental graduate committee.

Applicants whose academic preparation has deficiencies in certain areas may be admitted to the Ph.D. program with the requirement that they complete additional course work.

Admission to the Ph.D. program is granted on a full-time basis in September for the fall term.