

GEOGRAPHY (GEOG)

Updated January 25, 2024

Chair: Associate Professor Christopher Storie; Professors: D. Blair, B. Buhay, E. Cloutis, P. Fitzpatrick; Associate Professors: J. Binyamin, N. Casson, J. Distasio, M. Dyce, J. Storie, G. Sylvestre, M. Vachon; Instructors: J. Ma J TJ0 Tc 0 Tw 3 0 Td(-)Tj0.328 0 Td()Tj0.001 Tc 0.0

REQUIREMENTS FOR A 3-YEAR BA IN GEOGRAPHY

ADMISSION REQUIREMENT	Students must consult with the Chair of the Department in planning their course of study.
GRADUATION REQUIREMENT	90 credit hours
RESIDENCE REQUIREMENT	
Degree:	Minimum 30 credit hours
Major:	Minimum 18 credit hours
GENERAL DEGREE REQUIREMENT	
Humanities:	12 credit hours in Humanities
Science:	6 credit hours in Science
Writing:	Minimum 3 credit hours of Academic Writing.
Indigenous:	3 credit hours in designated Indigenous requirement courses
Maximum Introductory Courses:	Students may use a maximum of 42 credit hours at the 1000 level. Of these, maximum of 6 credit hours may be below the 1000 level. As a result, students must take a minimum of 48 credit hours at the 2000-level or above in order to not exceed the maximum number of introductory courses.
Distribution:	Minimum three (3) credit hours from each of five (5) different subjects.
MAJOR REQUIREMENT	
Single Major:	Minimum 30 credit hours/Maximum 48 credit hours.
Double Major:	30 credit hours in Geography and specified number of credit hours in another Major subject or program.

Required Courses:

Common Geography Requirement (9 credit hours)

- GEOG-1105(3)** Challenges of a Changing World: An Introduction to Human Geography
- GEOG-1205(3)** Science in a Dynamic World: An Introduction to Physical Geography
- GEOG-1305(3)** Mapping in a Global World: An Introduction to Geomatics

Regional Geography Requirement (6 credit hours)

- GEOG-3509(3)** Regional Geography of Canada

Three (3) credit hours from among the following:

- GEOG-2503(3)** Manitoba's Physical and Human Environments
- GEOG-3216(3)** Arctic Environments
- GEOG-3508(3)** Geographical Issues in the Developing World
- GEOG-3510(3)** Prairie Landscapes
- GEOG-3511(3)** Topical Regions in Geography
- GEOG-3512(3)** The Human Geography of Northern Canada (fulfils the Indigenous Requirement)

Systematic Human Geography Requirement (6 credit hours)

Minimum of 6 credit hours from the Systematic Human Geography group

Electives (9 credit hours)

Minimum 9 additional credit hours from any area of Geography

Combined Major: Minimum 48 credit hours from 2 different Majors with not less than 18 credit hours from each major subject

Prescribed Courses:

- GEOG-1105(3)** Challenges of a Changing World: An Introduction to Human Geography
- GEOG-1205(3)** Science in a Dynamic World: An Introduction to Physical Geography
- GEOG-1305(3)** Mapping in a Global World: An Introduction to Geomatics
- GEOG-3509(3)** Canada's Physical and Human Environments

3 additional credit hours from the Physical Geography Group

REQUIREMENTS FOR A 3-YEAR BSc IN GEOGRAPHY

ADMISSION REQUIREMENT	Students must consult with the Chair of the Department in planning their course of study.
GRADUATION REQUIREMENT	90 credit hours
RESIDENCE REQUIREMENT	
Degree:	Minimum 30 credit hours
Major:	Minimum 18 credit hours
GENERAL DEGREE REQUIREMENT	
Humanities:	12 credit hours in Humanities
Writing:	Minimum 3 credit hours of Academic Writing (1.4 (r)0.5.9 (t)5.4 (11.)Jg.74 Td()TJEMC /P A/CID 45 9BDC -0.004

12 credit hours from among:
GEOG-2207(3) Climatology

Major: Minimum 30 credit hours

GENERAL DEGREE REQUIREMENT

Humanities: 12 credit hours
Writing: Minimum 3 credit hours of Academic Writing.
Indigenous: 3 credit hours in designated Indigenous requirement courses
Maximum Introductory Courses: Students may use a maximum of 42 credit hours at the 1000 level. Of these, a maximum of 6 credit hours may be below the 1000 level. As a result, students must take a minimum of 78 credit hours at the 2000-level or above in order to not exceed the maximum number of introductory courses.
Distribution: Minimum three (3) credit hours from each of five (5) different subjects.

MAJOR REQUIREMENT

Single Major: Minimum 57 credit hours/Maximum 78 credit hours.
Double Major: Minimum 57 credit hours in Geography and a specified number of courses in another Major.

Required Courses:

Common Geography Requirement (9 credit hours)

- GEOG-1105(3)** Challenges of a Changing World: An Introduction to Human Geography
- GEOG-1205(3)** Science in a Dynamic World: An Introduction to Physical Geography
- GEOG-1305(3)** Mapping in a Global World: An Introduction to Geomatics

Regional Geography Requirement (3 credit hours)

- GEOG-3509(3)** Regional Geography of Canada

Physical Geography/Geomatics Requirement (27 credit hours)

- GEOG-2304(3)** Introduction to Cartography
- GEOG-2306(3)** Introduction to Geographic Information Systems
- GEOG-2309(3)** Statistical Techniques in Environmental Analysis or STAT-1301(3) Statistical Analysis or the former STAT-1201(6) Introduction to Statistical Analysis
- GEOG-2316(3)** Remote Sensing
- GEOG-3330(3)** Research Methods in Geography

12 credit hours from among

- GEOG-2207(3)** Climatology
- GEOG-2210(3)** Meteorology
- GEOG-2213(3)** Introductory Soil Science
- GEOG-2214(3)** Soil-Vegetation Systems
- GEOG-2215(3)** Mineralogy and Petrology
- GEOG-2216(3)** Physical Geology
- GEOG-2220(3)** Geomorphology
- GEOG-3210(3)** Hydrology

Additional Requirements (18 credit hours)

Minimum of 6 additional credit hours from the Physical or Geomatics groups.

Minimum of 6 credit hours from the Systematic Human group at the 3000 level

Minimum of 6 credit hours at the 4000 level ~~additional 24 credit hours (3-7 level) 52 credit hours (1-2, 2-5, 14) 7 (1-2, 5, 7, 5, 9, 13) 4 (6, 10, 5, 11) 0 (1-13)~~

PHYS-2812(3) The Physics of Music

Combined Major: Minimum 60 credit hours from 2 different Majors with not less than 24 credit hours from each major subject.
Prescribed Courses:

GEOG-1105(3) Challenges of a Changing World: An Introduction to Human Geography

GEOG-1205(3) Science in a Dynamic World: An Introduction to Physical Geography

GEOG-1305(3) Mapping in a Global World: An Introduction to Geomatics

GEOG-3509(3) Regional Geography of Canada

6 additional credit hours from the Physical Geography Group

REQUIREMENTS FOR THE 4-YEAR BSc IN GEOGRAPHY WITH A BUSINESS STREAM

Students must complete the requirements of the 4-year BSc in Geography degree (see previous section) and the set of core

GEOG-3330(3) Research Methods in Geography

15 credit hours from the following:

- GEOG-2207(3)** Climatology
- GEOG-2210(3)** Meteorology
- GEOG-2213(3)** Introductory Soil Science
- GEOG-2214(3)** Soil-Vegetation Systems
- GEOG-2215(3)** Mineralogy and Petrology
- GEOG-2216(3)** Physical Geology
- GEOG-2220(3)** Geomorphology
- GEOG-3210(3)** Hydrology

Minimum of 15 additional credit hours of upper level (3000 and 4000) Physical Geography or Geomatics courses (excluding Thesis) with a minimum of 9 credit hours at the 4000 level (excluding Thesis).

Thesis Requirement (6 credit hours)

GEOG-4901(6) Honours Geography Thesis - 6 credit hours with a prerequisite of **GEOG-3330 (3)** (Research Methods in Geography), 36 credit hours completed in Geography, and a Geography GPA of 3.0

External Science Courses (24 credit hours)

Minimum of 24 credit hours selected from at least two (2) of the Departments of Biology, Applied Computer Science, Chemistry, Mathematics, Physics, and Statistics, of which 12 credit hours must be at or above the 2000-level.

The following courses do ___ qualify:

- ACS-1453(3)** Introduction to Computers
- ACS-1803(3)** Introduction to Computer-based Systems
- BIOL-1005(6)** Concepts in Science
- BIOL-1102(6)** Biology and Human Concerns
- BIOL-1103(6)** Human Biology
- BIOL-**

Required courses for Human Geography Minor:

- GEOG-1105(3)** Challenges of a Changing World: An Introduction to Human Geography
- GEOG-2304(3)** Introduction to Cartography

Elective:

- Any six (6) credit hours at the 2000 level in Human Geography, Regional, or Geomatics
- Any six (6) credit hours at the 3000 level or higher in Human Geography, Regional or Geomatics

Required courses for Physical Geography Minor:

- GEOG-1205(3)** Science in a Dynamic World: An Introduction to Physical Geography
- GEOG-2304(3)** Introduction to Cartography

Elective

- Any six (6) credit hours at the 2000 level in Physical Geography or Geomatics
- Any six (6) credit hours at the 3000 level or higher in Physical Geography or Geomatics

GENERAL INFORMATION

Geography Courses Which Satisfy the Science Requirement

The Science requirement for BA, BBA and BKin degrees will be satisfied by 6 credit hours from the following courses:

GEOG-1201(3)	Introductory Atmospheric Science	GEOG-2306(3)	Introduction to Geographic Information System
GEOG-1202(3)	Introductory Earth Science	GEOG-2316(3)	Introduction to Remote Sensing
GEOG-1205(3)	Science in a Dynamic World: An Introduction to Physical Geography	GEOG-3306(3)	Advanced Geographic Information System
GEOG-2220(3)	Geomorphology	GEOG-3319(3)	Advanced Remote Sensing
GEOG-2207(3)	Climatology	GEOG-4203(3)	Topics in Climatology
GEOG-2210(3)	Meteorology	GEOG-4212(3)	Topics in Earth Sciences
GEOG-2213(3)	Introductory Soil Science	GEOG-4320(3)	Projects in Geomatics
GEOG-2214(3)	Soil-Vegetation Systems	GEOG-4321(3)	Topics in Geomatics
GEOG-2215(3)	Mineralogy and Petrology		
GEOG-2216(3)	Physical Geology		
GEOG-3210(3)	Hydrology		
GEOG-2304(3)	Introduction to Cartography		

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GEOG-2306(3) Introduction to Geographic Information
Systems
GEOG-2309(3) Statistical Techniques in Environmental
Analysis
GEOG-2316(3) Remote Sensing
GEOG-3306(3) Advanced Geographic Information
Systems
GEOG-3319(3) Advanced Remote Sensing
GEOG-3330(3) Research Methods in Geography
GEOG-4320(3) PTJ0 Tc 0 Tw 3.418 0 Td()T2316(3)