

GEOGRAPHY AND PLANNING

Courses

GPHY 101 Human Geography Units: 3.00

The fundamentals of human geography including the meanings of place, the impacts of globalization, multiculturalism, population change and movement, environmental history and politics, cultural geography, issues of uneven resource distribution, the role of colonialism in the modern shape of the world, agricultural geography, and urban geography.

NOTE Field Trip: estimated cost \$30.

NOTE Also offered online, consult Arts and Science Online (Learning Hours may vary).

Learning Hours: 120 (24 Lecture, 18 Tutorial, 42 Online Activity, 36 Private Study)

Requirements: Prerequisite None. Exclusion BADR 100/3.0; BISC 100/3.0*.

Offering Faculty: Faculty of Arts and Science

GPHY 102 Physical Geography and Natural Resources Units: 3.00

This course introduces the major concepts studied in physical geography and natural resources. The processes and interrelationships between the atmosphere, hydrosphere, biosphere, and lithosphere, particularly at, or near the Earth's surface, are investigated to serve as a basis for understanding the nature and distribution of natural resources.

NOTE Field Trip: estimated cost \$30.

Learning Hours: 120 (36 Lecture, 12 Tutorial, 48 Private Study)

Requirements: Prerequisite None.

Offering Faculty: Faculty of Arts and Science

GPHY 105 The Digital Earth: Geospatial Data and Earth Observation Units: 3.00

A vast amount of geospatial data has now become publicly accessible through online tools and smartphones. This course provides a critical introduction to the sources of these geospatial data, and the techniques of their visualization and analysis. Students will, by the end of the course, be able to manipulate and analyze these data in GIS software.

NOTE GPHY 105 is an option course and will not be a prerequisite for entry into GPHY Plans as are GPHY 101 and GPHY 102.

Learning Hours: 114 (36 Lecture, 78 Private Study)

Requirements: Prerequisite None.

Offering Faculty: Faculty of Arts and Science

GPHY 207 Principles of Biogeography Units: 3.00

An examination of ecological and earth system processes that affect the dynamics of organisms, their spatial patterns and their variability in time.

Learning Hours: 114 (36 Lecture, 18 Practicum, 12 Individual Instruction, 48 Private Study)

Requirements: Prerequisite (GPHY 102/3.0 or [3.0 units from BIOL or GEOL]) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 208 Surface Processes, Landforms, and Soils Units: 3.00

Explores the structure of, and physical processes responsible for the development of landforms and soils. Understanding these systems is directly relevant to environmental planning, hazard and risk assessment, geology, and surface processes on other planets. Topics include weathering, volcanic, tectonic, mass wasting, glacial, and fluvial processes.

NOTE Field Trip: estimated cost \$25.

Learning Hours: 120 (36 Lecture, 36 Laboratory, 48 Private Study)

Requirements: Prerequisite GPHY 102/3.0 or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 209 Weather and Climate Units: 3.00

The weather and climate system will be investigated to provide a background to interpret weather conditions and to understand broader climate and climate change phenomena. Topics include: atmospheric properties, energy and moisture exchanges, weather system evolution, precipitation, climate classification, and forecasting.

Learning Hours: 114 (36 Lecture, 18 Practicum, 60 Private Study)

Requirements: Prerequisite GPHY 102/3.0 or permission of the Department.

Offering Faculty: Faculty of Arts and Science



GPHY 215 Field Studies in Physical Geography Units: 3.00

This course will introduce students to field methods and techniques used in wide variety of physical geography and related environmental fields. The emphasis will be on hands-on application of field sampling, measuring and mapping approaches. Taught as a field camp in prior to fall term, or after the exam period in April.

NOTE Field Trip: estimated cost \$500.

Learning Hours: 120 (8 Online Activity, 40 Off-Campus Activity, 72 Private Study)

Requirements: Prerequisite (GPHY 207/3.0 or GPHY 208/3.0 or GPHY 209/3.0) or permission of the Department. Equivalency GPHY 307/3.0*.

Offering Faculty: Faculty of Arts and Science

GPHY 227 Cities: Geography, Planning and Urban Life Units: 3.00

The city from a geographical and planning perspective. Topics include origins of urbanism; mega; migrant, and global cities; urban competitiveness; land use planning and design; suburbanization and sprawl; new urban identities and culture; retailing transport; public space; private and temporary cities; urban poverty; politics and governance; sustainable urban futures.

NOTE Also offered online, consult Arts and Science Online (Learning Hours may vary).

Learning Hours: 120 (18 Lecture, 18 Tutorial, 24 Online Activity, 60 Private Study)

Requirements: Prerequisite (Level 2 or above) or permission of Department.

Offering Faculty: Faculty of Arts and Science

GPHY 228 Geographies of the Global Political Economy Units: 3.00

This course examines how geographers understand the global economic system. Topics include globalization, regional economic integration, transnational production and marketing strategies of firms, new patterns of consumption, the rise of the service economy, and work and employment in the new economy.

Learning Hours: 129 (18 Lecture, 18 Tutorial, 9 Group Learning, 24 Online Activity, 60 Private Study)

Requirements: Prerequisite (Level 2 or above) or permission of Department.

Offering Faculty: Faculty of Arts and Science

GPHY 229 Place, Space, Culture, and Social Life Units: 3.00

The role of place and space in understanding how social identities (gender, sexuality, race, nationality, class) are constructed and contested. Topics include the spaces and meanings of the body, home, work, leisure and consumption, cultural landscapes, constructions of nature, globalization and issues of knowledge, power and imperialism.

Learning Hours: 120 (36 Lecture, 24 Online Activity, 60 Private Study)

Requirements: Prerequisite (Level 2 or above) or permission of Department.

Offering Faculty: Faculty of Arts and Science

GPHY 230 Introduction to Urban and Regional Planning Units: 3.00

Introduction to histories, concepts, principles and practices of urban and regional planning. Examines how diverse residents of communities are involved in plan preparation, technical analyses behind the plans, implementation tools and guiding infrastructure investment. Includes international precedents but focuses on Canadian community planning.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite (Level 2 or above) or permission of Department.

Offering Faculty: Faculty of Arts and Science

GPHY 240 Introduction to Qualitative Methods in Geography Units: 3.00

An introduction to basic issues in research with human participants, and the qualitative methods commonly employed in such research in geography. Where relevant, students may be introduced to computer software used in qualitative research.

Learning Hours: 120 (36 Lecture, 18 Laboratory, 66 Private Study)

Requirements: Prerequisite (GPHY 101/3.0 or GPHY 102/3.0 or BADR 100/3.0 or BISC 100/3.0*) or permission of the Department. Exclusion BMED 270/3.0*; HSCI 270/3.0; SOCY 210/3.0.

Offering Faculty: Faculty of Arts and Science

GPHY 242 Remote Sensing I: Remote Sensing of the Environment Units: 3.00

The physical principles and practices of collecting, analyzing and interpreting various remote sensing data from the visible, infrared, and microwave regions of the electromagnetic spectrum are examined. In addition, the display, enhancement and interpretation of various digital remote sensing data, from airborne to satellite scales, is emphasized. Enrolment is limited.

Learning Hours: 120 (36 Lecture, 36 Laboratory, 48 Private Study)

Requirements: Prerequisite (GPHY 101/3.0 or GPHY 102/3.0 or GPHY 105/3.0 or BADR 100/3.0 or BISC 100/3.0*) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

Course Learning Outcomes:

1. Identify and apply the key concepts and laws governing electromagnetic radiation.
2. Extract information about urban and environmental features, regions, and phenomena from the electromagnetic energy recorded by terrestrial, airborne and spaceborne sensors.
3. Apply standard image processing techniques to view, analyze and interpret remote sensing data across a range of spatial and temporal scales.
4. Explain how remote sensing derivatives can be used to map or model a range of environmental processes.
5. Recognize the limitations of remotely sensed data to describe human/urban processes and issues surrounding inequitable data access, surveillance, and privacy.

GPHY 243 Geographic Information Science Units: 3.00

An introduction to the basic principles, techniques and applications of Geographic Information Science. Students will learn concepts of Global Positioning Systems (GPS), georeferencing, vector and raster based models and the nature of geospatial data.

Learning Hours: 120 (36 Lecture, 24 Practicum, 60 Private Study)

Requirements: Prerequisite (Level 2 or above) or permission of Department.

Offering Faculty: Faculty of Arts and Science

GPHY 247 Introduction to Statistics Units: 3.00

An introduction to the analysis of data from real life situations. Covers study design, descriptive and inferential statistics. Topics include probability, t-tests, regression, Chi-square tests, analysis of variance. Emphasis is in the foundation of statistical inference and practical application of statistical methods using statistical software.

Learning Hours: 126 (12 Lecture, 18 Laboratory, 48 Online Activity, 48 Private Study)

Requirements: Prerequisite (GPHY 101/3.0 or GPHY 102/3.0 or BADR 100/3.0 or BISC 100/3.0*) or permission of the Department. Exclusion BIOL 243/3.0; CHEE 209/3.5; COMM 162/3.0; ECON 250/3.0; HSCI 190/3.0; KNPE 251/3.0; NURS 323/3.0; POLS 285/3.0; POLS 385/3.0*; PSYC 202/3.0; SOCY 211/3.0; STAM 200/3.0; STAT 263/3.0.

Offering Faculty: Faculty of Arts and Science

GPHY 250 The Geography of Canada Units: 3.00

A regional examination of how economic, political, cultural, and environmental factors shape relationships between land and people in Canada. Emphasis on geographical patterns of development and on the analytical and historical roots of public policy.

Learning Hours: 120 (36 Lecture, 24 Online Activity, 60 Private Study)

Requirements: Prerequisite (Level 2 or above) or permission of Department.

Offering Faculty: Faculty of Arts and Science

GPHY 254 The Caribbean in Globalizing World Units: 3.00

The past, present and future role of the Caribbean in the world economy, with an emphasis on the colonial legacy, debt and dependency, the effects of neoliberal reform and the changing geographies, and patterns of uneven development created by increasingly transnational flows of capital, people and culture.

Learning Hours: 120 (36 Lecture, 24 Online Activity, 60 Private Study)

Requirements: Prerequisite (Level 2 or above) or permission of Department.

Offering Faculty: Faculty of Arts and Science

GPHY 304 Northern and Arctic Environments Units: 3.00

Interdisciplinary study of the geography of northern regions, emphasizing the Canadian Arctic.

Learning Hours: 126 (36 Lecture, 6 Online Activity, 84 Private Study)

Requirements: Prerequisite GPHY 102/3.0 or APSC 151/3.3 or permission of the Department.

Offering Faculty: Faculty of Arts and Science

**GPHY 305 Applied Cold Regions Science Units: 3.00**

Examining key aspects of cold regions science and processes using field and geospatial techniques applied to real-world case studies. Hands-on application of cold regions science methods will be used to explore major themes related to cold region climates, glaciology, hydrology, permafrost, snow science and resource development.

NOTE Field Trip: estimated cost \$75.

Learning Hours: 129 (36 Lecture, 24 Laboratory, 9 Off-Campus Activity, 60 Private Study)

Requirements: Prerequisite (Level 3 or above and [GPHY 208/3.0 or GPHY 209/3.0]) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 309 Field School in Geography Units: 3.00

This Field School explores the socio-political, cultural, and biophysical dimensions of human environment interactions. It examines how communities perceive and interact with their environments and how they are, in turn, impacted by change. Students will do readings, seminars, assignments, and participate in a Field School for up to four weeks.

NOTE Field School cost is dependent on location and duration in the field, to a maximum of \$3000. Please refer to the Department website for further information.

NOTE This course is repeatable for credit under different topic titles.

NOTE Learning Hours may vary.

Requirements: Prerequisite (Level 3 or above and registration in a GPHY Plan) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 310 Landscape Ecology Units: 3.00

Study of the relationship between spatial pattern and ecological processes. Topics include spatial arrangement of ecosystems and its influence on the flow of energy, materials and biota; agents of pattern and change; methods and techniques for characterizing landscapes and detecting change; applications in resource conservation and management.

NOTE Field Trip: estimated cost \$30.

Learning Hours: 120 (24 Lecture, 24 Laboratory, 6 Online Activity, 66 Private Study)

Requirements: Prerequisite Level 3 or above and (GPHY 207/3.0 or [BIOL 201/3.0* and BIOL 202/3.0*] or BIOL 200/3.0 or BIOL 111/3.0) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 312 Watershed Hydrology Units: 3.00

The course examines the processes that govern the flow and dissolved load in surface waters. Assignments focus on hydrological and hydrochemical data analysis and problem solving. Field projects emphasize hydrological monitoring techniques and methods used to collect and analyze the chemical composition of water samples.

NOTE Field Trip: estimated cost \$50.

Learning Hours: 108 (36 Lecture, 36 Laboratory, 36 Private Study)

Requirements: Prerequisite GPHY 208/3.0 or GPHY 209/3.0 or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 313 Glacier Processes and Dynamics Units: 3.00

Examining key aspects of contemporary glacier systems including glacier-climate processes, the mechanics of ice flow, and glacier impacts on human activities. Student-led projects give insight into the variability of glacier response globally, while laboratory exercises focus on field-based and remote-sensing approaches to glacier monitoring.

NOTE Field trips may apply in certain years dependent on snow and ice conditions; maximum cost \$75.

Learning Hours: 120 (36 Lecture, 36 Laboratory, 24 Online Activity, 24 Private Study)

Requirements: Prerequisite (Level 3 or above and [GPHY 208/3.0 or GPHY 209/3.0]) or permission of the Department.

Course Equivalencies: GPHY313, GPHY413

Offering Faculty: Faculty of Arts and Science

GPHY 314 Climate Change Units: 3.00

The study of historical and current climate change, projected future climates emphasizing the effects of global warming, impacts of climate change, and the role of humans as agents of climatic system change.

Learning Hours: 120 (36 Lecture, 12 Tutorial, 72 Private Study)

Requirements: Prerequisite (Level 3 or above) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 315 Advanced Field Measurements and Their Analysis Units: 3.00

Introducing advanced techniques in environmental field measurements including the design and deployment of automatic weather stations and customized sensors, and geophysical techniques. Practical work involves the design and implementation of a field experiment, and an introduction to R programming as powerful tool for data analysis.

NOTE Field Trip: maximum cost \$500.

Learning Hours: 120 (36 Lecture, 24 Laboratory, 60 Private Study)

Requirements: Prerequisite (Level 3 or above) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 317 Soil, Environment, and Society Units: 3.00

Soils are a critical resource required by societies. Using a strong methodological approach, this course will examine the important biological, chemical, and physical properties of soils. The course will also explore critical soil-related issues facing society, including salinization, degradation from agriculture, climate change, and erosion.

NOTE Field Trip: estimated cost \$30.

Learning Hours: 120 (36 Lecture, 36 Laboratory, 48 Private Study)

Requirements: Prerequisite GPHY 208/3.0 or GPHY 209/3.0 or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 318 Advanced Biogeography Units: 3.00

An examination of the distributions of plants and animals on global, regional and local scales, their causes and significance.

NOTE Field Trip: estimated cost \$25.

Learning Hours: 116 (36 Lecture, 8 Off-Campus Activity, 72 Private Study)

Requirements: Prerequisite Level 3 or above and (GPHY 207/3.0 or [BIOL 201/3.0* and BIOL 202/3.0*] or BIOL 200/3.0 or BIOL 111/3.0) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 319 Contemporary Energy Resources Units: 3.00

Fossil and renewable energy resources are reviewed through a geographic lens. Energy supply and demand are discussed in terms of the global energy sector. The environmental, economic, and social impacts of conventional and renewable energy options are considered, as are policies used to drive a transition in our energy mix.

Learning Hours: 126 (36 Lecture, 18 Group Learning, 36 Online Activity, 36 Private Study)

Requirements: Prerequisite (Level 3 or above and registration in a GPHY Plan) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 320 Energy and Society Units: 3.00

A broad overview of human history from the earliest hunter-gatherers through the Industrial Revolution as seen through the lens of energy. Considered will be methods of energy generation, and conversion, ranging from the human body to the internal combustion engine, and the interaction of these methods with other aspects of society and economy.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite (Level 3 or above) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 325 Maps and Society Units: 3.00

A critical study of cartographic representation from the pre-modern era up to and including the political, social, military, and economics roles of maps and geospatial data in the contemporary world.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite (Level 3 or above) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 327 The Geographical Imagination Units: 3.00

Critical approaches to the role of the geographic, cultural and historical imagination in shaping landscapes, environments and society.

Learning Hours: 127 (36 Lecture, 4 Group Learning, 12 Online Activity, 3 Off-Campus Activity, 72 Private Study)

Requirements: Prerequisite (GPHY 229/3.0 or [3.0 units in DEVS at the 200-level or above]) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

**GPHY 330 Transportation Geography Units: 3.00**

The course provides a systematic examination of urban transportation in the context of general economic, social and spatial trends. Particular focus is placed on the role of the built environment in explaining travel behaviour. The aim is to provide a fair understanding of transportation planning and policy issues and explore potential solutions.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite (Level 3 or above) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 333 Markets, Environments, and Societies Units: 3.00

This course examines the spatial relations (politics, social relations, ecosystems) that shape market exchange and the functioning of economies. We will explore attempts to create markets out of social and environmental 'things' that resist commodification from carbon to care as well as the connections between markets and other aspects of life.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite (Level 3 or above and [GPHY 227/3.0 or GPHY 228/3.0 or GPHY 229/3.0]) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 334 Geographies of Growth and Decline Units: 3.00

This course explores how the growth-focus of capitalist society has led to the widespread assumption of growth and territorial stigma of decline. We will examine how social, economic, environmental, cultural, and political processes at the local, national, and global level shape and reinforce distinct geographies of growth and decline.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite (Level 3 or above) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 336 Geography, the Environment and Human Health Units: 3.00

Examines the relationship between human health and built, physical, and social environments. Focus is influence of local environmental conditions on population health outcomes within the North American urban context. Policy and programming options for improving local conditions are explored.

Learning Hours: 120 (36 Lecture, 24 Individual Instruction, 24 Online Activity, 36 Private Study)

Requirements: Prerequisite (Level 3 or above and [3.0 units from BIOL 243/3.0; CHEE 209/3.5; COMM 162/3.0; ECON 250/3.0; GPHY 240/3.0; GPHY 247/3.0; KNPE 251/3.0; NURS 323/3.0; POLS 285/3.0; POLS 385/3.0*; PSYC 202/3.0; SOCY 211/3.0; STAM 200/3.0; STAT 263/3.0]) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 337 Regional Development and Planning Units: 3.00

Focus on regional planning and development processes, policies, and theories. Explore methods of regional analysis. Assessment of regional planning and development strategies and policy instruments used primarily in Canada with case examples from other international locations.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite (Level 3 or above and [GPHY 228/3.0 or GPHY 227/3.0 or GPHY 247/3.0 or 3.0 units in DEVS at the 200-level or above]) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 338 Urban Political Geography Units: 3.00

The forces involved in shaping the political environment and spatial structure of urban areas. Emphasis on the significance of decisions concerning public goods in the distribution of income and equity within the city.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite (6.0 units from GPHY 227/3.0; GPHY 228/3.0; GPHY 229/3.0) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 341 Photogrammetry Units: 3.00

An intensive introduction to the art and science of 3D measurement and mapping using photographs, with a particular focus on applications in GIS, Cartography, Cultural Heritage, Urban Planning, Geology and Engineering.

Learning Hours: 120 (36 Lecture, 36 Laboratory, 48 Private Study)

Requirements: Prerequisite (Level 3 or above) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 342 Remote Sensing II: Digital Image Processing Units: 3.00

This course represents an extension of GPHY 242, with an in-depth examination of image processing techniques for information extraction. Topics include remote sensor technology, image enhancement, classification, change detection, radiometric and geometric correction and sources and applications of remote sensing data.

NOTE Enrollment limited to 40 students.

Learning Hours: 120 (24 Lecture, 24 Practicum, 72 Private Study)

Requirements: Prerequisite (GPHY 242/3.0 and GPHY 247/3.0) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 345 Spatial Analysis Units: 3.00

An in-depth exploration of the spatial analysis techniques used in vector GIS. The analysis of geographic primitives of points, lines, areas and surfaces in the context of applications drawn from geography, biology, planning and related disciplines. Emphasis is placed on the use of current GIS software in a hands-on environment.

Learning Hours: 120 (24 Lecture, 24 Practicum, 24 Group Learning, 24 Online Activity, 24 Private Study)

Requirements: Prerequisite (GPHY 243/3.0 and [3.0 units from ECON 250/3.0; GPHY 247/3.0; KNPE 251/3.0; POLS 285/3.0; POLS 385/3.0*; PSYC 202/3.0; SOCY 211/3.0; STAM 200/3.0; STAT 263/3.0]) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 346 GIS and Modelling for Environmental Applications Units: 3.00

Study of the techniques of Geographic Information Systems and their applications in solving physical and environmental problems. Topics include data representation and models, spatial interpolation, raster-based analysis and modeling, surface models and terrain analysis, data visualization, temporal analysis, error and accuracy, and other algorithms and analytical procedures.

Learning Hours: 120 (24 Lecture, 24 Practicum, 24 Group Learning, 24 Online Activity, 24 Private Study)

Requirements: Prerequisite (GPHY 243/3.0 and [3.0 units from ECON 250/3.0; GPHY 247/3.0; KNPE 251/3.0; POLS 285/3.0; POLS 385/3.0*; PSYC 202/3.0; SOCY 211/3.0; STAM 200/3.0; STAT 263/3.0]) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 348 Application Design and Customization in GIS Units: 3.00

An introduction to customization of GIS and database software with an emphasis on spatial analysis tool development for desktop and Web-based GIS. Students will learn concepts of user requirements analysis, software requirements preparation, interface and software design, and computer programming while they develop customized GIS applications.

Learning Hours: 120 (24 Lecture, 24 Practicum, 24 Group Learning, 24 Online Activity, 24 Private Study)

Requirements: Prerequisite (GPHY 243/3.0 and [3.0 units from ECON 250/3.0; GPHY 247/3.0; KNPE 251/3.0; POLS 285/3.0; POLS 385/3.0*; PSYC 202/3.0; SOCY 211/3.0; STAM 200/3.0; STAT 263/3.0]) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 351 Geographies of Indigenous and Settler Relations Units: 3.00

An overview of selected elements of the geographies of Aboriginal peoples in Canada with a focus on the relationship between Aboriginal peoples and their environments, urbanization and culture change, and colonialism.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite (Level 3 or above and [6.0 units from GPHY 227/3.0; GPHY 228/3.0; GPHY 229/3.0] or [3.0 units at the 200-level or above in DEVS or GNDS]) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 352 Gender and the City Units: 3.00

Gender in relationship to the spatial organization of contemporary cities. Emphasis on the diversity of gendered experiences as they relate to the urban: housing, violence, social movements, work, and gender symbols.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite ([6.0 units from GPHY 227/3.0; GPHY 228/3.0; GPHY 229/3.0] or [3.0 units at the 200-level or above in GNDS]) or permission of the Department.

Offering Faculty: Faculty of Arts and Science



GPHY 365 Geography, Development, and Environment in the 'Third World' Units: 3.00

The geographical implications of the incorporation of the Third World into the global economy. Emphasis will be upon issues relating to both the physical and human environments in reference to development, ecological alteration, cultural change, and spatial readjustment.

Learning Hours: 120 (36 Lecture, 12 Online Activity, 72 Private Study)

Requirements: Prerequisite (Level 3 or above and [6.0 units from GPHY 227/3.0; GPHY 228/3.0; GPHY 229/3.0] or [3.0 units at the 200-level or above in DEVS or GNDS] or ENSC 103/3.0) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 367 People and Place in the Changing Arctic Units: 3.00

This course examines contemporary issues in the Arctic with an eye to environmental, economic, political, and social change. Students will use academic, popular, and filmic resources to examine subjects from human and physical geography, including climate change, Indigenous rights, international relations, food security, and industrial development. Students will gain in-depth understandings of the diversity of Arctic regions and develop skills to incorporate this critical thinking into their research, perspectives, and arguments.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite (Level 3 or above) or permission of the Department. Exclusion GPHY 370/3.0 (Topic Title: Geographies of a Changing Arctic - Winter 2023, Fall 2023).

Offering Faculty: Faculty of Arts and Science

Course Learning Outcomes:

1. Identify the different physiographic and political regions of the Arctic and the Indigenous Peoples who live there.
2. Contextualize the historical relationship between Arctic Indigenous Peoples, Arctic nation-states, and contemporary events and issues.
3. Analyze the main sources of social, political, and environmental change across Arctic regions and explain linkages between them.
4. Specify the different state and non-state actors in the region and their respective interests in the Arctic.
5. Explain the interrelationship between physical and human geographical changes as they relate to the Arctic.

GPHY 368 Environments and Society Units: 3.00

A critical evaluation of the changing relationships between nature and society.

Learning Hours: 127 (36 Lecture, 4 Group Learning, 12 Online Activity, 3 Off-Campus Activity, 72 Private Study)

Requirements: Prerequisite (6.0 units from GPHY 227; GPHY 228; GPHY 229) or (3.0 units at the 200-level or above in DEVS).

Offering Faculty: Faculty of Arts and Science

GPHY 369 Urban Natures Units: 3.00

This course examines how interlocking systems of power produce urban environmental issues such as water access, climate disaster, infectious disease, sanitation systems, and foodscapes. It draws on feminist, political economic, Indigenous, and decolonial systems of thought to consider urban environments across the Global North and South. NOTE Field Trip fees may apply in certain years: maximum cost \$150.

Learning Hours: 123 (36 Lecture, 3 Off-Campus Activity, 84 Private Study)

Requirements: Prerequisite (6.0 units from GPHY 227/3.0, GPHY 228/3.0, GPHY 229/3.0) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 370 Special Topics in Human Geography Units: 3.00

Course offered by visiting faculty on Geography topics related to their research interests. Consult the departmental homepage for further details of specific course offerings each academic year.

NOTE This course is repeatable for credit under different topic titles.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite (Level 3 or above and registration in a GPHY Plan) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 371 Special Topics in Earth System Science Units: 3.00

Course offered by visiting faculty on Geography topics related to their research interests. Consult the departmental homepage for further details of specific course offerings each academic year.

NOTE This course is repeatable for credit under different topic titles.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite (Level 3 or above and registration in a GPHY Plan) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 372 Special Topics Geographic Information Science Units: 3.00

This course provides intensive coverage of a topic in Geographic Information Science and will be offered periodically by visiting professors. Consult the Departmental homepage for details on specific course offerings each year.

Learning Hours: 120 (36 Lecture, 84 Private Study)

Requirements: Prerequisite (Level 3 or above and registration in a GPHY Plan) or permission of the Department.

Offering Faculty: Faculty of Arts and Science

GPHY 401 Honours Seminar in Human Geography I Units: 3.00

Seminars offered by regular and visiting faculty on Geography topics related to their research interests. Consult the departmental homepage for further details of specific course offerings each academic year.

NOTE Field Trip fees may apply in certain years: maximum cost \$300.

Learning Hours: 132 (36 Seminar, 24 Off-Campus Activity, 72 Private Study)

Requirements: Prerequisite Level 4 or above and registration in a GPHY Major [Arts] or Joint Honours Plan and a minimum GPA of 2.60 in 24.0 units in GPHY. Exclusion GPHY 402/3.0; GPHY 403/3.0.

Offering Faculty: Faculty of Arts and Science

GPHY 402 Honours Seminar in Human Geography II Units: 3.00

Seminars offered by regular and visiting faculty on Geography topics related to their research interests. Consult the departmental homepage for further details of specific course offerings each academic year.

NOTE Field Trip fees may apply in certain years: maximum cost \$300.

Learning Hours: 132 (36 Seminar, 24 Off-Campus Activity, 72 Private Study)

Requirements: Prerequisite Level 4 or above and registration in a GPHY Major [Arts] or Joint Honours Plan and a minimum GPA of 2.60 in 24.0 units in GPHY. Exclusion GPHY 401/3.0; GPHY 403/3.0.

Offering Faculty: Faculty of Arts and Science

GPHY 403 Honours Seminar in Human Geography III Units: 3.00

Seminars offered by regular and visiting faculty on Geography topics related to their research interests. Consult the departmental homepage for further details of specific course offerings each academic year.

NOTE Field Trip fees may apply in certain years: maximum cost \$300.

Learning Hours: 132 (36 Seminar, 24 Off-Campus Activity, 72 Private Study)

Requirements: Prerequisite Level 4 or above and registration in a GPHY Major [Arts] or Joint Honours Plan and a minimum GPA of 2.60 in 24.0 units in GPHY. Exclusion GPHY 401/3.0; GPHY 402/3.0.

Offering Faculty: Faculty of Arts and Science

GPHY 415 Advanced Analysis of Earth Surface Processes Units: 6.00

A fourth year Honours capstone project course exploring a contemporary geographic issue by integrating advanced knowledge and skills in physical geography and geographic information science. Focus will be on integration of field and laboratory methods, and how they are used to explore contemporary geographic or environmental issues.

NOTE Field Trips within the Province of Ontario: maximum cost \$175.

Learning Hours: 240 (12 Lecture, 12 Seminar, 36 Laboratory, 12 Group Learning, 24 Off-Campus Activity, 144 Private Study)

Requirements: Prerequisite Level 4 or above and registration in a (GPHY Major [Science] or EGPY Specialization Plan) and (6.0 units from MATH or STAT at the 100-level or above) and (6.0 units from CHEM or PHYS at the 100-level or above) and a (minimum GPA of 1.90 in 30.0 units from GPHY).

Offering Faculty: Faculty of Arts and Science

GPHY 501 Special Studies in Geography Units: 3.00

Open to fourth-year students who have an average of A- or greater in those courses which form their concentration for admission to Honours in Geography. Special consideration will be given to requests from students with an average of B or more in those courses which form their concentration for admission to Honours. The student will arrange a program of study with a specific member of the Department.

Learning Hours: 120 (24 Individual Instruction, 96 Private Study)

Requirements: Prerequisite (Level 4 or above and registration in a GPHY Major, Joint Honours Plan, or EGPY Specialization) and a minimum GPA of 3.50 in 24.0 units in GPHY and consent of a supervising member of the Department) or by permission of the Departmental Undergraduate Committee. Exclusion GPHY 502/3.0; GPHY 503/6.0.

Offering Faculty: Faculty of Arts and Science



GPHY 502 Research and Thesis in Geography I Units: 3.00

Research project in Geography supervised by a member of the faculty. Research involving the amount of work associated with other senior 3.0 unit courses will be done as GPHY 502. NOTE Admission is subject to the availability of supervisors.

Learning Hours: 120 (24 Individual Instruction, 96 Private Study)

Requirements: Prerequisite (Level 4 or above and registration in a GPHY Major, Joint Honours Plan, or EGPY Specialization and a minimum GPA of 3.50 in 24.0 units in GPHY and consent of a supervising member of the Department) or by permission of the Departmental Undergraduate Committee. Exclusion GPHY 501/3.0; GPHY 503/6.0.

Offering Faculty: Faculty of Arts and Science

GPHY 503 Research and Thesis Geography II Units: 6.00

Research project in Geography supervised by a member of the faculty. Research involving the amount of work associated with larger research projects with work comparable to a 6.0 unit course (including work completed during summer) may be done as GPHY 503.

NOTE Admission is subject to the availability of supervisors.

Learning Hours: 240 (48 Individual Instruction, 192 Private Study)

Requirements: Prerequisite (Level 4 or above and registration in a GPHY Major, Joint Honours Plan, or EGPY Specialization and a minimum GPA of 3.50 in 24.0 units in GPHY and consent of a supervising member of the Department) or by permission of the Departmental Undergraduate Committee. Exclusion GPHY 501/3.0; GPHY 502/3.0.

Offering Faculty: Faculty of Arts and Science

GPHY 594 Independent Study Units: 3.00

Exceptionally qualified students entering their third- or fourth-year may take a program of independent study provided it has been approved by the Department or Departments principally involved. The Department may approve an independent study program without permitting it to be counted toward a concentration in that Department. It is, consequently, the responsibility of students taking such programs to ensure that the concentration requirements for their degree will be met.

NOTE Requests for such a program must be received one month before the start of the first term in which the student intends to undertake the program.

Requirements: Prerequisite Permission of the Department or Departments principally involved.

Offering Faculty: Faculty of Arts and Science

GPHY 595 Independent Study Units: 6.00

Exceptionally qualified students entering their third- or fourth-year may take a program of independent study provided it has been approved by the Department or Departments principally involved. The Department may approve an independent study program without permitting it to be counted toward a concentration in that Department. It is, consequently, the responsibility of students taking such programs to ensure that the concentration requirements for their degree will be met.

NOTE Requests for such a program must be received one month before the start of the first term in which the student intends to undertake the program.

Requirements: Prerequisite Permission of the Department or Departments principally involved.

Offering Faculty: Faculty of Arts and Science

GPHY 596 Independent Study Units: 12.00

Exceptionally qualified students entering their third- or fourth-year may take a program of independent study provided it has been approved by the Department or Departments principally involved. The Department may approve an independent study program without permitting it to be counted toward a concentration in that Department. It is, consequently, the responsibility of students taking such programs to ensure that the concentration requirements for their degree will be met.

NOTE Requests for such a program must be received one month before the start of the first term in which the student intends to undertake the program.

Requirements: Prerequisite Permission of the Department or Departments principally involved.

Offering Faculty: Faculty of Arts and Science

GPHY 597 Independent Study Units: 18.00

Exceptionally qualified students entering their third- or fourth-year may take a program of independent study provided it has been approved by the Department or Departments principally involved. The Department may approve an independent study program without permitting it to be counted toward a concentration in that Department. It is, consequently, the responsibility of students taking such programs to ensure that the concentration requirements for their degree will be met.

NOTE Requests for such a program must be received one month before the start of the first term in which the student intends to undertake the program.

Requirements: Prerequisite Permission of the Department or Departments principally involved.

Offering Faculty: Faculty of Arts and Science