MAJOR IN PHYSICAL GEOGRAPHY AND GEOMATICS

Physical Geography is the scientific study of processes and patterns at the Earth's surface. It uses field and laboratory measurements and spatial data to evaluate our world's changing climates, water, land, plants and animals. Physical geographers are trained to synthesize environmental knowledge and apply it to real-world problems such as coastal erosion or loss of habitat. Solving these problems also requires the collection, management and computer analysis of the vast amounts of spatial data now available, which is the domain of Geomatics.

Students in the Major in Physical Geography and Geomatics at the University of Ottawa learn to use the full range of geospatial technologies (drones/UAVs, global positioning systems, geographic information systems, satellite imaging, spatial analysis) to study environments ranging from the mountains of the Yukon to the coral reefs of Zanzibar. Graduates from the program will have the scientific knowledge and the technical skills to become leaders in these growing fields.

The program is offered in English and in French.

Program Requirements

The table below includes only the discipline-specific courses. Please refer to the Academic Regulations (https://www.uottawa.ca/administration-and-governance/academic-regulation-3-program-of-studies/) for information on the Honours bachelor's with double major and the Honours bachelor's with major and minor.

Co-operative education is available when taken as part of an honours degree.

The French immersion stream is available when taken as part of an honours degree.

This program cannot be combined with the Minor in Geomatics.

This program partially satisfies the academic requirements of the Association of Professional Geoscientists of Ontario.

Compulsory courses at the 1000 level		
GEG 1301	The Physical Environment	3 Units
ITI 1120	Introduction to Computing I	3 Units
Compulsory courses at the 2000 level		
GEG 2301	Geomorphology	3 Units
GEG 2304	Climatology	3 Units
GEG 2320	GIS and the Digital Earth	3 Units
GEG 2918	Introduction to Field Research	3 Units
Compulsory courses at the 3000 level		
GEG 3105	Earth Observation	3 Units
GEG 3312	Digital Earth Analysis Modeling	3 Units
Compulsory courses at the 4000 level		
GEG 4301	Coding the Digital Earth	3 Units
Optional courses		
9 optional course units from:		9 Units
BIO 1130	Introduction to Organismal Biology	
CHM 1311	Principles of Chemistry	
GEO 1111	Introduction to Earth Systems	
GEO 1115	Introduction to Earth Materials	
PHY 1321	Principles of Physics I	
6 optional course units from one of the following options:		6 Units
Option 1		
MAT 1320	Calculus I	
MAT 1322	Calculus II	
Option 2		
MAT 1330	Calculus for the Life Sciences I	
MAT 1332	Calculus for the Life Sciences II	
3 optional course units from: [1]		3 Units
GEG 4000	Tropical Field Research	
GEG 4001	Northern Field Research	
GEG 4100	Glaciology Field Research	
GEG 4921	Physical Geography Field Research	
15 optional course units from:		15 Units
GEG 3101	Advanced Geomorphology	
GEG 3102	Hydrology	
GEG 3114	Biogeography	
GEG 3300	Selected Topics in Physical Geography	
GEG 3306	Quaternary Paleogeography	
GEG 3524	Histoire de la géographie	
GEG 4000	Tropical Field Research	
GEG 4001	Northern Field Research	
GEG 4101	Permafrost Environments	
GEG 4120	Spatial Data Science	
GEG 4121	Applications of Remote Sensing in the Polar Regions	
GEG 4126	Seminar in Physical Geography	
GEG 4129	Global Climate Change	
GEG 4512	Paléoenvironnements du quaternaire	
Total:		60 Units

[1] GEG 4000 and GEG 4001 are 6 unit courses. The extra 3 units will count towards optional 3000 or 4000 level course units.