Geography

Program Requirements Geography

B.A. Honours (20.0 credits)

Ο.	A. Honours (2)	o.o creatis)					
A.	Credits Included	in the Major CGPA (10.0 credits)					
1.	1.5 credits in:		1.5				
	GEOG 1010 [0.5]	Global Environmental Systems					
	GEOG 1020 [0.5]	People, Places and Environments					
	GEOM 1004 [0.5]	Maps, Satellites and the Geospatial Revolution					
2.	0.5 credit from:		0.5				
	GEOG 2020 [0.5]	Physical Environments of Canada					
	GEOG 2013 [0.5]	Weather and Water					
	GEOG 2014 [0.5]	The Earth's Surface					
3.	1.0 credit in:		1.0				
	GEOG 2005 [0.5]	Introduction to Qualitative Research					
	GEOG 2006 [0.5]	Introduction to Quantitative Research					
4.	1.5 credits from:		1.5				
	GEOG 2200 [0.5]	Global Connections					
	GEOG 2300 [0.5]	Space, Place and Culture					
	GEOG 2400 [0.5]	Cities and Urbanization					
	GEOG 2500 [0.5]	Climate Change: Social Science Perspectives					
5.	0.5 credit from:		0.5				
	GEOG 3000 [0.5]	Honours Field Course					
	GEOG 3030 [0.5]	Regional Field Excursion					
6.	0.5 credit from:		0.5				
	GEOG 3001 [0.5]	Doing Qualitative Research					
	GEOG 3003 [0.5]	Quantitative Geography					
	GEOM 2007 [0.5]	Geographic Information Systems					
	GEOM 3002 [0.5]	Air Photo Interpretation and Remote Sensing					
	GEOM 3007 [0.5]	Cartographic Theory and Design					
7.	1.0 credit from:		1.0				
	GEOG 3021 [0.5]	Geographies of Culture and Identity					
	GEOG 3022 [0.5]	Environmental and Natural Resources					
	GEOG 3023 [0.5]	Cities in a Global World					
	GEOG 3024 [0.5]	Understanding Globalization					
	GEOG 3025 [0.5]	Geographies of Selected Regions					
	GEOG 3026 [0.5]	Topics in the Geography of Canada					
	1.0 credit in GEO	G and/or GEOM at the 3000- level or	1.0				
9.	2.5 credits from:		2.5				
a)	Thesis stream:						
	EOG 4909 [1.0] plus ENST at the 4000-	s 1.5 credits from GEOG/GEOM and/ level					
b)	Course stream:						
2.	5 credits from GEO	G/GEOM and/or ENST at the 4000-					
le	vel						
	Credits Not Included	ded in the Major CGPA (10.0					
10	10. 8.0 credits in electives not in GEOG 8.0						

	. 2.0 credits in free	electives	2.0
10	tal Credits		20.0
	eography with (eography	Concentration in Physical	
	A. Honours (20	.0 credits)	
Α.	Credits Included in	n the Major CGPA (10.0 credits)	
	1.5 credits in:	,	1.5
	GEOG 1010 [0.5]	Global Environmental Systems	
	GEOG 1020 [0.5]	People, Places and Environments	
	GEOM 1004 [0.5]	Maps, Satellites and the Geospatial Revolution	
2.	2.0 credits in:		2.0
	GEOG 2005 [0.5]	Introduction to Qualitative Research	
	GEOG 2006 [0.5]	Introduction to Quantitative Research	
	GEOG 2013 [0.5]	Weather and Water	
	GEOG 2014 [0.5]	The Earth's Surface	
3.	1.0 credit from:		1.0
	GEOG 2200 [0.5]	Global Connections	
	GEOG 2300 [0.5]	Space, Place and Culture	
	GEOG 2400 [0.5]	Cities and Urbanization	
	GEOG 2500 [0.5]	Climate Change: Social Science Perspectives	
4.	0.5 credit in:		0.5
	GEOG 3000 [0.5]	Honours Field Course	
	GEOG 3010 [0.5]	Field Methods in Physical Geography	
5.	2.0 credits from:		2.0
	GEOG 3003 [0.5]	Quantitative Geography	
	GEOG 3102 [0.5]	Geomorphology	
	GEOG 3103 [0.5]	Watershed Hydrology	
	GEOG 3104 [0.5]	Principles of Biogeography	
	GEOG 3105 [0.5]	Climate and Atmospheric Change	
	GEOG 3106 [0.5]	Aquatic Science and Management	
	GEOG 3108 [0.5]	Soil Properties	
	GEOM 3002 [0.5]	Air Photo Interpretation and Remote Sensing	
6.	0.5 credit from:		0.5
	GEOG 4406 [0.5]	Practicum I	
	GEOG 4408 [0.5]	Practicum II	
7.	2.5 credits from:		2.5
	a) Thesis pathway	:	
	i. 1.0 credit in:	Harana Danasah Tharia	
	GEOG 4909 [1.0] ii. 1.5 credits from:	Honours Research Thesis	
	GEOM 4003 [0.5]	Remote Sensing of the	
	GEOW 4003 [0.3]	Environment	
	GEOG 4004 [0.5]	Environmental Impact Assessment	
	GEOG 4005 [0.5]	Directed Studies in Geography	
	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

OR

UR		
b) Course pathwa	y:	
2.5 credits from:		
GEOM 4003 [0.5]	Remote Sensing of the Environment	
GEOG 4004 [0.5]	Environmental Impact Assessment	
GEOG 4005 [0.5]	Directed Studies in Geography	
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	
B. Credits Not Include credits)	led in the Major CGPA (10.0	
8. 8.0 credits in elec	tives not in GEOG	8.0
9. 2.0 credits in free	electives.	2.0
Total Credits		20.0
	Honours (20.0 credits)	
credits)	n the Geography Major CGPA (7.0	
1. 1.0 credit in:		1.0
GEOG 1010 [0.5]	Global Environmental Systems	
GEOG 1020 [0.5]	People, Places and Environments	
2. 0.5 credit from:		0.5
GEOG 2020 [0.5]	Physical Environments of Canada	
GEOG 2013 [0.5]	Weather and Water	
GEOG 2014 [0.5]	The Earth's Surface	
3. 1.0 credit from:		1.0
GEOG 2200 [0.5]	Global Connections	
GEOG 2300 [0.5]	Space, Place and Culture	
GEOG 2400 [0.5]	Cities and Urbanization	
GEOG 2500 [0.5]	Climate Change: Social Science Perspectives	
4. 1.0 credit from:		1.0
GEOM 1004 [0.5]	Maps, Satellites and the Geospatial Revolution	
GEOG 2005 [0.5]	Introduction to Qualitative Research	
GEOG 2006 [0.5]	Introduction to Quantitative Research	
5. 1.5 credits in GEO or above	OG and/or GEOM at the 3000- level	1.5
6. 1.0 credit in GEO	G and/or GEOM at the 4000- level	1.0
7. 1.0 credit in:		1.0
a) Thesis pathway	,	
GEOG 4909 [1.0]	Honours Research Thesis	
OR		
b) Course pathwa	у	
1.0 credit in GEOG	at the 4000-level	
B. Additional Require	ements (13.0 credits)	13.0
8. The requirements of be satisfied	f the other Honours discipline must	

9. Sufficient free electives	to total	20.0	credits	for	the
program.					

Total Credits	20.0

Geography

	Geography B.A. General (15.0 credits)						
Α.	Credits Included i	n the Major CGPA (7.0 credits)					
1.	1.0 credit in:		1.0				
	GEOG 1010 [0.5]	Global Environmental Systems					
	GEOG 1020 [0.5]	People, Places and Environments					
2.	0.5 credit from:		0.5				
	GEOG 2020 [0.5]	Physical Environments of Canada					
	GEOG 2013 [0.5] Weather and Water						
	GEOG 2014 [0.5]	The Earth's Surface					
3.	1.0 credit from:		1.0				
	GEOM 1004 [0.5]	Maps, Satellites and the Geospatial Revolution					
	GEOG 2005 [0.5] Introduction to Qualitative Research						
	GEOG 2006 [0.5]	Introduction to Quantitative Research					
4.	1.0 credit from:		1.0				
	GEOG 2200 [0.5]	Global Connections					
	GEOG 2300 [0.5]	Space, Place and Culture					
	GEOG 2400 [0.5]	Cities and Urbanization					
	GEOG 2500 [0.5]	Climate Change: Social Science Perspectives					
	1.0 credit in GEO	G and/or GEOM at the 2000- level or	1.0				
	6. 2.5 credits in GEOG and/or GEOM at the 3000- level or above						
B. Credits Not Included in the Geography Major CGPA (8.0 credits)							
7.	6.0 credits in elec	tives not in GEOG	7.0				
8.	2.0 credit in free e	lectives.	1.0				
То	Total Credits						

Course Categories for B.Sc. Geography

Lists of courses for all other categories (Science Continuation, Approved Experimental Science, Science Faculty Electives and Approved Arts or Social Sciences Electives) are located at the Academic Regulations for the B.Sc. page.

Earth Sciences and Geography: **Concentration in Terrain Science B.Sc. Combined Honours (20.0 credits)**

A. Credits Included in the Major CGPA (12.5 credits)

1.	0.5 credit in:		0.5
	GEOG 2014 [0.5]	The Earth's Surface	
2.	0.5 credit in:		0.5
	ERTH 1006 [0.5]	Exploring Planet Earth	
3.	2.5 credits in:		2.5
	ERTH 2102 [0.5]	Mineralogy to Petrology	
	ERTH 2104 [0.5]	Igneous Systems, Geochemistry and Processes	
	ERTH 2314 [0.5]	Sedimentation and Stratigraphy	
	ERTH 2406 [0.5]	Geology and Map Interpretation	
	FRTH 2802 [0.5]	Field Geology I	

4.	0.5 credit from:		0.5	NSCI 1000 [0.5]	Seminar in Science (or approved	
	ERTH 3203 [0.5]	Applied Sedimentology			courses outside the faculties of	
	ERTH 3206 [0.5]	Oceanography: Its Modern and Geologic Records (See Note,			Science and Engineering and Design)	
		below)		19. 1.5 credits in app of Science and Engine	proved courses outside the faculties	1.5
5.	1.5 credits in:		1.5	20. 1.0 credit in free		1.0
	ERTH 3205 [0.5]	Physical Hydrogeology		Total Credits	0.000.000.	20.0
	ERTH 3207 [0.5]	Metamorphic Petrology and Processes			ove, ERTH 3203 is required if	20.0
	ERTH 3806 [0.5]	Structural Geology		prerequisite condition	•	
6.	1.0 credit in ERTH	at the 4000-level	1.0	Earth Sciences	and Physical Geography	
7.	0.5 credit from:		0.5		Honours (20.0 credits)	
	GEOG 2006 [0.5]	Introduction to Quantitative Research			n the Major CGPA (12.0 credits)	
	STAT 2507 [0.5]	Introduction to Statistical Modeling I		1. 1.0 credit in:		1.0
8.	1.5 credits in:		1.5	GEOG 2013 [0.5]	Weather and Water	
	GEOM 1004 [0.5]	Maps, Satellites and the Geospatial		GEOG 2014 [0.5]	The Earth's Surface	
		Revolution		2. 0.5 credit in:		0.5
	GEOM 2007 [0.5]	Geographic Information Systems		ERTH 1006 [0.5]	Exploring Planet Earth	
	GEOG 2013 [0.5]	Weather and Water		3. 1.5 credits in:		1.5
9.	2.0 credits in:		2.0	ERTH 2102 [0.5]	Mineralogy to Petrology	
	GEOM 3002 [0.5]	Air Photo Interpretation and		ERTH 2314 [0.5]	Sedimentation and Stratigraphy	
	05000000000	Remote Sensing		ERTH 2406 [0.5]	Geology and Map Interpretation	
	GEOG 3102 [0.5]	Geomorphology		4. 0.5 credit in:		0.5
	GEOG 3105 [0.5]	Climate and Atmospheric Change		ENSC 2000 [0.5]	Environmental Science Field	
	GEOG 3108 [0.5]	Soil Properties	4.0		Methods	
10). 1.0 credit in:	To Millian Variation for the description	1.0		H at the 3000-level or above	2.0
	GEOG 4101 [0.5]	Two Million Years of Environmental Change		1.0 credit in ERTH		1.0
	GEOG 4108 [0.5]	Permafrost			nce Geography or Geomatics evel or above to include	1.5
11	. 1.0 credit from:		1.0	GEOM 2007 [0.5]	Geographic Information Systems	
	GEOG 4906 [1.0]	Honours Research Project		8. 2.0 credits in:	Geographic information dystems	2.0
	ERTH 4908 [1.0]	Honours Thesis		GEOM 3002 [0.5]	Air Photo Interpretation and	2.0
	ERTH 4909 and 0.5	credit 4000-level ERTH		020 0002 [0.0]	Remote Sensing	
В.	Credits Not Includ	ed in the Major CGPA (7.5 credits)		GEOG 3102 [0.5]	Geomorphology	
12	2. 1.0 credit in:		1.0	GEOG 3105 [0.5]	Climate and Atmospheric Change	
	MATH 1007 [0.5]	Elementary Calculus I		GEOG 3108 [0.5]	Soil Properties	
	MATH 1107 [0.5]	Linear Algebra I		9. 1.0 credit in Scien	ce Geography or Geomatics courses	1.0
13	3. 1.0 credit from:		1.0	at the 4000-level		
	CHEM 1001 [0.5]	General Chemistry I		10. 1.0 credit from:		1.0
		General Chemistry II		GEOG 4906 [1.0]	Honours Research Project	
	CHEM 1005 [0.5]	Elementary Chemistry I		ERTH 4908 [1.0]	Honours Thesis	
4 4		Elementary Chemistry II	4.0		5 credit 4000-level ERTH	
14	I. 1.0 credit from:	Interestination (Manhamine and	1.0		led in the Major CGPA (8.0 credits)	
	PHYS 1003 [0.5] & PHYS 1004 [0.5]	Introductory Mechanics and Thermodynamics		11. 1.0 credit in:		1.0
	a : : : : 0 : 00 : [0:0]	Introductory Electromagnetism and		MATH 1007 [0.5]	Elementary Calculus I	
		Wave Motion		MATH 1107 [0.5]	Linear Algebra I	
	PHYS 1007 [0.5]	Elementary University Physics I		12. 1.0 credit in:		1.0
		Elementary University Physics II		CHEM 1001 [0.5]	General Chemistry I	
15	5. 0.5 credit in:		0.5		General Chemistry II	4.0
	COMP 1004 [0.5]	Introduction to Computers for the Sciences		13. 1.0 credit in: PHYS 1007 [0.5]	Elementary University Physics I	1.0
16	6. 0.5 credit in:		0.5		Elementary University Physics II	
	BIOL 1104 [0.5]	Foundations of Biology II		14. 0.5 credit in:		0.5
17	7. 0.5 credit in Adva	nnced Science Faculty electives	0.5	BIOL 1104 [0.5]	Foundations of Biology II	
18	3. 0.5 credit in:		0.5	15. 1.0 credit in MAT above; and/or in COM	H (MATH, STAT) at 2000-level or P	1.0

	STAT 2507 [0.5]	Introduction to Statistical Modeling I		GEOG 4103 [0.5]	Water Resources Engineering	
	COMP 4004 [0 F]	(recommended)		GEOG 4104 [0.5]	Microclimatology	
	COMP 1004 [0.5]	Introduction to Computers for the Sciences (recommended)		GEOG 4108 [0.5]	Permafrost	
16	1 0 credit in Adv	anced Science Faculty Electives	1.0	7. 2.0 credits from:		2.0
	. 0.5 credit in:	and a contract t activity _100 avec	0.5	GEOM at the 4000		
i	NSCI 1000 [0.5]	Seminar in Science (or Approved	0.0	GEOG 4000 [0.5]	Field Studies	
		Arts or Social Sciences)		GEOG 4004 [0.5]	Environmental Impact Assessment	
18	. 1.5 credits in App	proved Arts or Social Sciences	1.5	GEOG 4005 [0.5]	Directed Studies in Geography	
19	. 0.5 credit in free	electives	0.5	GEOG 4013 [0.5]	Cold Region Hydrology	
То	tal Credits		20.0	GEOG 4017 [0.5] GEOG 4101 [0.5]	Global Biogeochemical Cycles Two Million Years of Environmental	
	nysical Geogra			0500 4400 0 51	Change	
В.	Sc. Honours (2	20.0 credits)		GEOG 4103 [0.5]	Water Resources Engineering	
Α.	Credits Included i	n the Major CGPA (10.0 credits)		GEOG 4104 [0.5]	Microclimatology	
1.	1.0 credit from:		1.0	GEOG 4108 [0.5]	Permafrost	
	GEOG 1010 [0.5]	Global Environmental Systems		GEOG 4406 [0.5]	Practicum I	
	or ERTH 1006 [0	0. 5 kploring Planet Earth		GEOG 4408 [0.5]	Practicum II	4.0
	and			8. 1.0 credit in:	Hansana Bassanah Basisat	1.0
	GEOM 1004 [0.5]	Maps, Satellites and the Geospatial			Honours Research Project	
		Revolution		credits)	led in the Major CGPA (10.0	
	1.0 credit in:		1.0	,	rimental Science Electives	1.0
	GEOG 2013 [0.5]	Weather and Water		10. 0.5 credit in:	miorital Colorido Electivos	0.5
	GEOG 2014 [0.5]	The Earth's Surface		MATH 1007 [0.5]	Elementary Calculus I	0.0
3.	0.5 credit from:		0.5	11. 0.5 credit in MAT	•	0.5
	GEOG 2006 [0.5]	Introduction to Quantitative			ence Continuation, not in GEOG	2.0
	0747 0507 10 51	Research			ence Faculty Electives	1.0
	STAT 2507 [0.5]	Introduction to Statistical Modeling I	0.5	14. 0.5 credit from:	oneo i dedity Electives	0.5
4.	0.5 credit from:	Harasana Field Course	0.5	NSCI 1000 [0.5]	Seminar in Science (or approved	0.0
	GEOG 3000 [0.5] GEOG 3010 [0.5]	Honours Field Course Field Methods in Physical Geography			courses outside the faculties of Science and Engineering and	
5.	2.5 credits from:	0 1 3	2.5	4E 4.0 avadit in cons	Design) roved courses outside the faculties of	1.0
	GEOG 3003 [0.5]	Quantitative Geography		• •	ing and Design, not in GEOG	1.0
	GEOG 3102 [0.5]	Geomorphology			oved courses outside the faculties of	0.5
	GEOG 3103 [0.5]	Watershed Hydrology		Science and Engineer		
	GEOG 3104 [0.5]	Principles of Biogeography		17. 3.0 credits in free	e electives.	3.0
	GEOG 3105 [0.5]	Climate and Atmospheric Change		Total Credits		20.0
	GEOG 3106 [0.5]	Aquatic Science and Management		Specialization in	Globalization and the	
	GEOG 3108 [0.5]	Soil Properties		Environment	Giobalization and the	
	GEOM 3002 [0.5]	Air Photo Interpretation and Remote Sensing		B.G.In.S. Honour	rs (20.0 credits)	
6.	1.5 credits from:	-	1.5	A. Credits Included i	n the Major CGPA (12.0 credits)	
	GEOG 3000 [0.5]	Honours Field Course		1. 4.5 credits in:		4.5
	GEOG 3003 [0.5]	Quantitative Geography		GINS 1000 [0.5]	Global History	
	GEOG 3010 [0.5]	Field Methods in Physical		GINS 1010 [0.5]	International Law and Politics	
		Geography		GINS 1020 [0.5]	Ethnography, Globalization and	
	GEOG 3102 [0.5]	Geomorphology			Culture	
	GEOG 3103 [0.5]	Watershed Hydrology		GINS 2000 [0.5]	Ethics and Globalization	
	GEOG 3104 [0.5]	Principles of Biogeography		GINS 2010 [0.5]	Globalization and International	
	GEOG 3105 [0.5]	Climate and Atmospheric Change		01110	Economic Issues	
	GEOG 3108 [0.5]	Soil Properties		GINS 2020 [0.5]	Global Literatures	
	GEOG 4000 [0.5]	Field Studies		GINS 3010 [0.5]	Global and International Theory	
	GEOG 4005 [0.5]	Directed Studies in Geography		GINS 3020 [0.5]	Places, Boundaries, Movements	
	GEOG 4013 [0.5]	Cold Region Hydrology		GINS 4090 [0.5]	and Global Environmental Change Honours Seminar in Global and	
	GEOG 4017 [0.5]	Global Biogeochemical Cycles		GIING 4080 [U.0]	International Studies	
	GEOG 4101 [0.5]	Two Million Years of Environmental		2. 7.5 credits in: the		
		Change		a. 1.5 credits in: Found		1.5

	GEOG 1010 [0.5]	Global Environmental Systems		GINS 2020 [0.5]	Global Literatures	
	GEOG 1020/	People, Places and Environments		GINS 3010 [0.5]	Global and International Theory	
	ENST 1020 [0.5]			GINS 3020 [0.5]	Places, Boundaries, Movements	
	GEOG 2200 [0.5]	Global Connections			and Global Environmental Change	
t	b. 1.5 credits from: Glo		1.5	2. 4.0 credits from:	the Stream	4.0
	GEOG 2300 [0.5]	Space, Place and Culture		a. Foundations	Olahal Fasiana antal Osatana	
	GEOG 2400 [0.5]	Cities and Urbanization		GEOG 1010 [0.5]	Global Environmental Systems	
	GEOG 3023 [0.5]	Cities in a Global World		GEOG 1020/ ENST 1020 [0.5]	People, Places and Environments	
	GEOG 3024 [0.5] GEOG 3025 [0.5]	Understanding Globalization Geographies of Selected Regions		GEOG 2200 [0.5]	Global Connections	
	GEOG 3023 [0.5]	Regional Field Excursion		b. Globalization		
(c. 2.0 credits from: Glo	•	2.0	GEOG 2300 [0.5]	Space, Place and Culture	
•	GEOG 2500/	Climate Change: Social Science	2.0	GEOG 2400 [0.5]	Cities and Urbanization	
	ENST 2500 [0.5]	Perspectives		GEOG 3023 [0.5]	Cities in a Global World	
	GEOG 3022/	Environmental and Natural		GEOG 3024 [0.5]	Understanding Globalization	
	ENST 3022 [0.5]	Resources		GEOG 3025 [0.5]	Geographies of Selected Regions	
	GEOG 3206 [0.5]	Health, Environment, and Society		GEOG 3030 [0.5]	Regional Field Excursion	
	GEOG 3209 [0.5]	Sustainability and Environment in		c. Global Environemn	t	
	OFOC 2404 [0 F]	the South Geographies of Economic		GEOG 2500/	Climate Change: Social Science	
	GEOG 3404 [0.5]	Development		ENST 2500 [0.5]	Perspectives	
	HUMR 3503 [0.5]	Global Environmental Justice		GEOG 3022/ ENST 3022 [0.5]	Environmental and Natural Resources	
	PSCI 3801 [0.5]	Environmental Politics		GEOG 3206 [0.5]	Health, Environment, and Society	
	TSES 3002 [0.5]	Energy and Sustainability		HUMR 3503 [0.5]	Global Environmental Justice	
(d. 1.0 credit in: Resear	rch Methodologies	1.0	PSCI 3801 [0.5]	Environmental Politics	
	GEOG 2005/	Introduction to Qualitative		TSES 3002 [0.5]	Energy and Sustainability	
	ENST 2005 [0.5]	Research		d. Research Methodol	••	
	GEOG 2006/	Introduction to Quantitative		GEOG 2005/	Introduction to Qualitative	
	ENST 2006 [0.5]	Research	1 E	ENST 2005 [0.5]	Research	
•	e. 1.5 credits from: Ho GEOG 4005/	Directed Studies in Geography	1.5	GEOG 2006/	Introduction to Quantitative	
	ENST 4005 [0.5]	(topic in Global Environmental		ENST 2006 [0.5]	Research	
		Issues)		credits):	led in the Major CGPA (7.0	
	GEOG 4022 [0.5]	Seminar in People, Resources and		3. 7.0 credits in: Fre	e Electives	7.0
	0500 4000 10 51	Environmental Change		C. Additional Requir	ements	
	GEOG 4023 [0.5]	Seminar in Special Topics on the City		4. The Language requ	uirement must be met.	
	GEOG 4024 [0.5]	Seminar in Globalization		Total Credits		15.0
	GEOG 4909 [1.0]	Honours Research Thesis (topic in		Minor in Geogra	nhy (4 0 credits)	
		Globalization and the Environment)			· · · · · · · · · · · · · · · · · · ·	
	PSCI 4808 [0.5]	Global Environmental Politics			aduate degree students not in ns or the B.G.In.S. Specialization o	or
F	B. Credits Not Includ	ed in the Major CGPA (8.0 credits)			tion and the Environment.	JI
	3. 8.0 credits in: free		8.0			
	C. Additional Require			Requirements: 1. 1.0 credit in:		1.0
		sperience requirement must be met.		GEOG 1010 [0.5]	Global Environmental Systems	1.0
-	5. The Language requ	frement must be met.		GEOG 1010 [0.5]	People, Places and Environments	
	Total Credits		20.0	2. 0.5 credit from:	r copie, r laces and Environments	0.5
,	Stream in Global	ization and the Environment		GEOG 2013 [0.5]	Weather and Water	0.0
F	B.G. In.S. Genera	l (15.0 credits)		GEOG 2014 [0.5]	The Earth's Surface	
,	A. Credits Included in	n the Major CGPA (8.0 credits)		GEOG 2020 [0.5]	Physical Environments of Canada	
	1. 4.0 credits in: Core		4.0	3. 0.5 credit from:	•	0.5
	GINS 1000 [0.5]	Global History		GEOG 2005 [0.5]	Introduction to Qualitative	
	GINS 1010 [0.5]	International Law and Politics			Research	
	GINS 1020 [0.5]	Ethnography, Globalization and		GEOG 2006 [0.5]	Introduction to Quantitative	
		Culture		CEOM 1004 IO 53	Research Mana Satallitas and the Conspatial	
	GINS 2000 [0.5]	Ethics and Globalization		GEOM 1004 [0.5]	Maps, Satellites and the Geospatial Revolution	
	GINS 2010 [0.5]	Globalization and International Economic Issues		4. 0.5 credit from:		0.5

	GEOG 2200 [0.5]	Global Connections			
	GEOG 2300 [0.5]	Space, Place and Culture			
	GEOG 2400 [0.5]	Cities and Urbanization			
	GEOG 2500 [0.5]	Climate Change: Social Science Perspectives			
5. 1.0 credit in GEOG and/or GEOM at the 3000- level or above					
6. 0.5 credit in GEOG or GEOM					
7. The remaining requirements of the major discipline(s) and degree must be satisfied.					
To	otal Credits		4.0		

Minor in Physical Geography (4.0 credits)

Open to all undergraduate degree students not in Geography programs.

R	Requirements:						
1.	0.5 credit from:		0.5				
	GEOG 1010 [0.5]	Global Environmental Systems					
	ERTH 1006 [0.5]	Exploring Planet Earth					
2.	1.0 credit in:		1.0				
	GEOG 2013 [0.5]	Weather and Water					
	GEOG 2014 [0.5]	The Earth's Surface					
3.	2.5 credits from:		2.5				
	GEOM 3002 [0.5]	Air Photo Interpretation and Remote Sensing					
	GEOG 3003 [0.5]	Quantitative Geography					
	GEOG 3102 [0.5]	Geomorphology					
	GEOG 3103 [0.5]	Watershed Hydrology					
	GEOG 3104 [0.5]	Principles of Biogeography					
	GEOG 3105 [0.5]	Climate and Atmospheric Change					
	GEOG 3106 [0.5]	Aquatic Science and Management					
	GEOG 3108 [0.5]	Soil Properties					
	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 4104 [0.5] Microclimatology		Microclimatology					
	GEOG 4108 [0.5]	Permafrost					
	The remaining requirements of the major discipline(s) and degree must be satisfied.						

Minor in Urban Studies (4.0 credits)

Only students pursuing undergraduate programs requiring at least 20.0 credits to graduate may be admitted to the Urban Studies minor.

Requirements:

Total Credits

1.	1.0 credit from:		1.0
	FYSM 1107 [1.0]	Social Justice and the City	
	GEOG 1020 [0.5]	People, Places and Environments	
	GEOM 1004 [0.5]	Maps, Satellites and the Geospatial Revolution	
2.	1.0 credit from:		1.0
	GEOG 2200 [0.5]	Global Connections	
	GEOG 2400 [0.5]	Cities and Urbanization	
	GEOM 2007 [0.5]	Geographic Information Systems	
3.	0.5 credit in:		0.5
	GEOG 3023 [0.5]	Cities in a Global World	

	4.	0.5 credit from:		0.5
		ARCU 3100 [0.5]	The Morphology of the City	
		ARCU 3501 [0.5]	Fundamentals of Urbanism	
		HIST 3209 [0.5]	Canadian Urban History	
		HUMR 3002 [0.5]	Right to the City	
5	5.	0.5 credit from:		0.5
		GEOG 4023 [0.5]	Seminar in Special Topics on the City	
		GEOG 4303 [0.5]	Urban Planning	
	6.	0.5 credit from:		0.5
		ARCU 4300 [0.5]	History of Theories of Urbanism	
		ARCU 4600 [0.5]	Post-WWII Urbanism	
		ARCU 4801 [0.5]	Selected Topics in Urbanism	
		CDNS 4901 [0.5]	Selected Topics in Canadian Studies (when offered with an urban theme, such as "Heritage Conservation and Sustainability")	
		GEOG 4000 [0.5]	Field Studies (when offered with an urban theme)	
		GEOG 4005 [0.5]	Directed Studies in Geography (with urban theme)	
		GEOG 4006 [0.5]	Special Topics in Geography & Environmental Studies	
	Tc	otal Credits		4.0

Geography (GEOG) Courses

4000-level courses are normally restricted to students with fourth-year Honours standing. However, students with third-year standing may take 4000-level courses provided they have the necessary prerequisites, a Geography CGPA of 6.50 or better, and permission of the Department.

GEOG 1010 [0.5 credit] **Global Environmental Systems**

Principles, processes and interactions in the Earth's environment emphasizing the flow of energy and matter within global systems. Atmospheric and oceanic processes, earth surface processes and biogeochemical cycling. Case studies on the interaction between human activity and the natural environment.

Lectures three hours a week, laboratory two hours a week.

GEOG 1020 [0.5 credit] People, Places and Environments

4.0

Introduction to human geography. Examination of relationships between people, communities, society and the natural environment at local to global scales. Population change, cultural patterns, and historical, economic, political and environmental forces that shape human activity and experiences from place to place. Also listed as ENST 1020.

Lectures two hours a week and tutorial one hour a week.

GEOG 2005 [0.5 credit]

Introduction to Qualitative Research

Introduction to the research process, from generating questions to reporting results. Topics include intensive and extensive research approaches; the use of surveys, interviews and other data collection methods; the analysis of qualitative information; and the ethical dimensions of doing research with people and communities.

Also listed as ENST 2005.

Prerequisite(s): 1.0 credit in GEOG or ENST at the 1000-level and second-year standing, or permission of the Department.

Lectures two hours a week, workshop two hours a week.

GEOG 2006 [0.5 credit]

Introduction to Quantitative Research

Introduction to solving problems using descriptive and inferential statistical methods. Graphical and numerical tools to describe distributions. Probability, sampling and estimates, and hypothesis testing. Fundamentals of spatial statistics and analysis.

Also listed as ENST 2006.

Precludes additional credit for BIT 2000, BIT 2100 (no longer offered), BIT 2300 (no longer offered), NEUR 2002, PSCI 2702, STAT 2507, STAT 2606.

Lectures two hours a week, laboratory two hours a week.

GEOG 2013 [0.5 credit]

Weather and Water

Introduction to climate, weather and the hydrological cycle. Physical properties of the atmosphere, radiation and energy balances, global circulation, atmospheric moisture and precipitation, weather systems and forecasting, mechanisms of climate change.

Prerequisite(s): GEOG 1010 or ERTH 1006 or ISCI 1001. Lectures three hours a week, laboratory three hours a week.

GEOG 2014 [0.5 credit]

The Earth's Surface

Introduction to geomorphology. Weathering, slope and fluvial processes within drainage basins, and glacial and periglacial processes.

Prerequisite(s): GEOG 1010 or ERTH 1006 or ISCI 1001. Lectures three hours a week, laboratory three hours a week.

GEOG 2020 [0.5 credit]

Physical Environments of Canada

Canada's physiography, climates, biogeography, soils, and landforms.

Prerequisite(s): GEOG 1010 or ERTH 1006 or ERTH 1010 or ISCI 1001.

Lectures three hours a week.

GEOG 2200 [0.5 credit]

Global Connections

Globalization and global environmental change as linked processes. Geographical analysis of economic, cultural and political transformations acting at global, national and local scales. Choices and constraints underlying economic, social and environmental sustainability. Prerequisite(s): second-year standing or permission of the Department.

Lectures three hours a week.

GEOG 2300 [0.5 credit]

Space, Place and Culture

Introduction to social and cultural geography, including how theories of space, place, landscape, power, and knowledge can be used to understand the geographic dimensions of social and cultural life. Topics include culture and identity, migration and transnationalism, nature, gender, sexuality, race, colonialism, consumption, and work.

Prerequisite(s): second-year standing or permission of the Department.

Lectures two hours a week, discussion one hour a week.

GEOG 2400 [0.5 credit]

Cities and Urbanization

Introduction to the study of cities, urbanization and suburbanization. Geography of urban experience, development and change across the globe. Urbanization processes, patterns and issues in different cities and regions; the relationships among urban areas.

Prerequisite(s): second-year standing or permission of the Department.

Lectures three hours a week.

GEOG 2500 [0.5 credit]

Climate Change: Social Science Perspectives

An introduction to climate change, with an emphasis on human dimensions. Topics include anthropogenic greenhouse gas emissions, regional variations in climate change and their consequences, human vulnerability and adaptation to environmental change, and climate change politics and policies at a variety of geographic scales. Also listed as ENST 2500.

Prerequisite(s): second-year standing or permission of the Department.

Lectures three hours a week.

GEOG 2600 [0.5 credit]

Geography Behind the Headlines

Exploration of the geographical backgrounds to selected issues of current public interest, through geography's perspective of integrating human and physical environments. Issues selected will be structured from the global through the national/regional to the local, identifying the interdependencies among the scales. Lecture three hours a week.

GEOG 3000 [0.5 credit]

Honours Field Course

Field research, with a focus on data collection methods, analysis and presentation of findings. Design and conduct research that links the human and biophysical environment. Topics may change from year to year. Also listed as ENST 3900.

Precludes additional credit for ENST 2900 (no longer offered).

Prerequisite(s): GEOG 2005/ENST 2005 and GEOG 2006/ENST 2006, third-year Honours standing in Geography, Geomatics or Environmental Studies, or permission of the Department.

Normally consists of a multi-day field excursion in the Ottawa region. A supplementary charge may apply. Consult the department regarding course details.

GEOG 3001 [0.5 credit]

Doing Qualitative Research

Theory and methods used in qualitative approaches to research in human geography; hands-on experience and discussion of beliefs and claims underlying scholarly work. Ethical and practical dilemmas confronting researchers. Gathering and interpreting qualitative information; representing knowledge.

Prerequisite(s): GEOG 2005 or ENST 2005. Lecture and discussion three hours per week.

GEOG 3003 [0.5 credit] Quantitative Geography

Quantitative methods used in geographical research: multiple correlation and regression, principal component/ factor analysis, spatial statistics, cluster analysis, and a review of other selected techniques. Computer-based analysis.

Prerequisite(s): GEOG 2006 or ENST 2006 or STAT 2507 or permission of the Department.

Lecture two hours a week, laboratory two hours a week.

GEOG 3010 [0.5 credit]

Field Methods in Physical Geography

Field and laboratory approaches, methodologies and techniques in physical geography. Field projects will be undertaken to collect data for analysis, evaluation and presentation.

Prerequisite(s): GEOG 2006 or ENST 2006 or STAT 2507 and GEOG 2013 or GEOG 2014 or permission of the Department.

Normally consists of a multi-day field camp, including lodging, during Fall or Winter Break, and regular classroom meetings. A supplementary charge will apply.

GEOG 3021 [0.5 credit]

Geographies of Culture and Identity

Examination of culture, identity and place over time. Colonial and other historical processes that have shaped societies from place to place; relationships between cultural groups and their natural surroundings; gender, ethnicity, nationality and other dimensions of identity; impacts of globalization.

Prerequisite(s): GEOG 2300 and third-year standing, or permission of the Department.

Lecture three hours a week.

GEOG 3022 [0.5 credit]

Environmental and Natural Resources

Exploration of complexity, dynamics, uncertainty and equity issues underpinning environmental and resource issues; review and appraisal of selected contemporary methods to assess and manage environmental and natural resources.

Also listed as ENST 3022.

Prerequisite(s): third-year standing in Geography or Environmental Studies or permission of the Department. Lecture three hours a week.

GEOG 3023 [0.5 credit] Cities in a Global World

Introduces the study of cities as "systems of cities", the political economy of linkages between urban places located unevenly in space, and "cities as systems". Case studies of socio-cultural, political and economic relations within biophysical and built environments.

Prerequisite(s): GEOG 2200 or GEOG 2400, and thirdyear standing, or permission of the department. Lecture and discussion three hours a week.

GEOG 3024 [0.5 credit]

Understanding Globalization

Geographical analysis of processes of globalization: theoretical frameworks, historical context and contemporary challenges.

Prerequisite(s): GEOG 2200 and third-year standing, or permission of the Department.

Lecture three hours a week.

GEOG 3025 [0.5 credit]

Geographies of Selected Regions

Geographical analysis of key questions facing a selected region of the world. Attention will focus on selected topics within one or more regions and their related global context. Prerequisite(s): third-year standing in a B.A. program or permission of the Department.

Lecture three hours a week.

GEOG 3026 [0.5 credit]

Topics in the Geography of Canada

Selected topic concerning the geography of Canada. Topic varies from year to year.

Precludes additional credit for GEOG 2505 [no longer offered].

Prerequisite(s): GEOG 1020 or ENST 1020 and secondyear standing, or permission of the Department. Lecture three hours a week.

GEOG 3030 [0.5 credit]

Regional Field Excursion

Guided and independent geographic field research, with a focus on data collection methods, and analysis and presentation of findings. Consists of an excursion outside of the Ottawa region. A supplementary charge may apply. Prerequisite(s): third-year Honours standing in Geography, or permission of the Department.

A 7-10 day field excursion.

GEOG 3102 [0.5 credit] Geomorphology

Geomorphological agents of landscape change at the Earth's surface, emphasizing the role of water, ice and wind in erosion and deposition; use of geomorphic indicators in studies of environmental change. A supplementary charge may apply.

Prerequisite(s): GEOG 2014 and third-year standing, or permission of the Department.

Lectures two hours a week, laboratory two hours a week, one field excursion.

GEOG 3103 [0.5 credit] Watershed Hydrology

Principles of hydrology at local and watershed scales, emphasizing: soil moisture regimes; field data collection and analysis of surface water or snow and ice conditions; hydrologic processes in cold environments; and regional runoff regimes in Canada.

Prerequisite(s): GEOG 2013 or permission of the Department.

Lectures three hours a week, laboratory two hours a week.

GEOG 3104 [0.5 credit] Principles of Biogeography

Contemporary and past controls on distribution of plants and animals at global, regional and local scales; significance of these distributions.

Also listed as BIOL 3608.

Prerequisite(s): GEOG 1010 or BIOL 2600, or permission of the Department.

Lectures, laboratory, and fieldwork five hours a week.

GEOG 3105 [0.5 credit] Climate and Atmospheric Change

The global climate system, with emphasis on global change variability over the historical and modern periods; the changing composition of the atmosphere and its impact on climate; analysis and interpretation of climatic and atmospheric data; modeling of climate systems. Prerequisite(s): GEOG 2013 or permission of the Department.

Lecture two hours a week, laboratory two hours a week.

GEOG 3106 [0.5 credit]

Aquatic Science and Management

Fundamentals of aquatic science. The physical, chemical, and biotic aspects of lake, river, and estuary systems including human impacts, management and conservation. Also listed as ENSC 3106.

Prerequisite(s): third-year standing and a second-year science or engineering course.

Workshop four hours per week.

GEOG 3108 [0.5 credit] Soil Properties

The physical and chemical properties of soils; soil-water relationships, weathering processes, soil mineralogy, cation exchange, soil pH. A plant-oriented perspective predominates.

Prerequisite(s): GEOG 2013 or GEOG 2014 or permission of the Department.

Lectures and laboratory five hours a week.

GEOG 3206 [0.5 credit]

Health, Environment, and Society

Factors influencing human health in an ecological framework involving population structure, habitat, and behaviour. Changes in the distribution of communicable and degenerative diseases are portrayed as being related to historical and contemporary development and globalization processes. Sources, types and characteristics of geographically referenced health information.

Prerequisite(s): third-year standing. Lectures three hours a week.

GEOG 3209 [0.5 credit]

Sustainability and Environment in the South

Analysis of the relationships between people and environment in selected regions in the South (Africa, Asia, Latin America). Emphasis on sustainable livelihoods and local action in relation to broader socio-economic and political processes. Regions selected vary from year to year.

Prerequisite(s): third-year standing and ENST 2000 or ENST 2001 or GEOG 2200 or GEOG 2300 or permission of the Department.

Lecture and discussion three hours a week.

GEOG 3404 [0.5 credit]

Geographies of Economic Development

Geographical approaches to economic development and difference at local, regional and global scales. Critical historical, cultural, social and political economic perspectives on 'development', including theories of the state, colonial power, and development institutions. Spatial dynamics and environmental impacts of economic activity. Prerequisite(s): GEOG 2200 or permission of the Department.

Lectures three hours a week.

GEOG 3501 [0.5 credit]

Geographies of the Canadian North

The physical characteristics, historical geography, economic resources, settlement patterns and problems and the future development of Arctic and Subarctic lands, focusing primarily on Canada.

Prerequisite(s): third-year standing or permission of the Department.

Lectures three hours a week.

GEOG 3700 [0.5 credit] Population Geography

The distributional aspects of population attributes; areal patterns of population characteristics and their spatial variations associated with differences in the nature of places; migratory movements within the framework of spatial models of interactions between locations. Prerequisite(s): GEOG 2200 or GEOG 2300, or permission of the Department. Lectures three hours a week.

GEOG 3999 [0.0 credit] Co-operative Work Term

Work term.

GEOG 4000 [0.5 credit]

Field Studies

Field observation and methodology in a selected region; individual or group basis.

Also listed as ENST 4400.

Prerequisite(s): third-year Honours standing and permission of the Department.

Hours to be arranged.

GEOG 4004 [0.5 credit]

Environmental Impact Assessment

Principles, scope and purpose of environmental impact assessment, from conceptual and methodological points of view; range of environmental issues, with emphasis on Canadian case studies.

Prerequisite(s): fourth-year Honours standing in Geography or Environmental Studies or Environmental Science, or permission of the Department. GEOG 3022 or ENST 3022 is recommended.

Lectures and seminars three hours a week.

GEOG 4005 [0.5 credit]

Directed Studies in Geography

Students pursue their interest in a selected theme in geography on a tutorial basis with a member of the Department.

Prerequisite(s): fourth-year standing in Geography or Environmental Studies or Geomatics and permission of the Department.

Hours to be arranged.

GEOG 4006 [0.5 credit]

Special Topics in Geography & Environmental Studies

Selected topics in geography and/or environmental studies.

Prerequisite(s): fourth-year Honours standing in the Department or permission of the Department. Seminar three hours per week.

GEOG 4013 [0.5 credit] Cold Region Hydrology

An examination of cold region hydrologic processes via experimental and observational studies; analysis of hydrologic data and application of hydrologic models. Prerequisite(s): GEOG 3103.

Lecture three hours a week.

GEOG 4017 [0.5 credit]

Global Biogeochemical Cycles

Processes that control the fluxes and reservoirs of biologically active chemical constituents on land, in the atmosphere, and in the oceans. Interactions between biogeochemical cycles and the Earth's climate; impact of land use and fossil fuel emissions on biogeochemical cycles and global change.

Prerequisite(s): GEOG 3108 or permission of the Department.

Lectures three hours a week.

GEOG 4021 [0.5 credit]

Seminar in Culture, Identity and Place

Selected topic or field of inquiry concerning the geographic dimensions of culture, identity and place.

Prerequisite(s): GEOG 3021 and fourth-year Honours standing in Geography or permission of the Department. Seminar three hours a week.

GEOG 4022 [0.5 credit]

Seminar in People, Resources and Environmental Change

A selected topic or field of inquiry concerning natural resource use and environmental change.

Prerequisite(s): GEOG 3022 or ENST 3022 and fourthyear Honours standing in Geography or Environmental Studies or permission of the Department.

Seminar three hours a week.

GEOG 4023 [0.5 credit]

Seminar in Special Topics on the City

A selected topic or field of inquiry concerning urban geography.

Prerequisite(s): GEOG 3023 and fourth-year Honours standing in Geography or Environmental Studies or permission of the Department.

Seminar three hours per week.

GEOG 4024 [0.5 credit]

Seminar in Globalization

A selected issue or topic related to globalization. Prerequisite(s): GEOG 3024 and fourth-year Honours standing in Geography or permission of the Department. Seminar three hours week.

GEOG 4040 [0.5 credit] Geographic Thought

Major intellectual issues and debates in the development of contemporary human geography, including history of geographic thought, geographic responses to social and political movements and debates, and geographic engagement with contemporary critical theory.

Prerequisite(s): fourth-year Honours standing in Geography or permission of the Department.

Seminar three hours per week.

GEOG 4050 [0.5 credit]

Environmental and Geographic Education

Selected theoretical and applied issues concerning environmental and geographic education.

Prerequisite(s): third-year Honours standing in Geography or Environmental Studies, or permission of the Department.

Seminar three hours per week.

GEOG 4101 [0.5 credit]

Two Million Years of Environmental Change

Multidisciplinary scientific study of the changes in the physical environment of the Earth during the last two million years and methods of studying recent Earth history, with focus on current research.

Prerequisite(s): third year standing in a B.Sc. program, or a third year Science Geography Elective or a third year ERTH course, or permission of the Department. Note: GEOG 3105 is recommended.

Lectures three hours a week.

GEOG 4103 [0.5 credit] Water Resources Engineering

A quantitative analysis of natural water systems and the development of these systems as a resource. Components of the hydrologic cycle. Quantitative analysis of stream flow. Probability concepts in water resources. Reservoir design and operation. Availability of groundwater. Storm water management.

Also listed as ENVE 3003.

Prerequisite(s): permission of the Department. Recommended background: MAAE 2300.

Lectures three hours a week, problem analysis one hour a week.

GEOG 4104 [0.5 credit] Microclimatology

The formation of microclimates near the Earth's surface; energy and water flows; the interaction of atmospheric processes with the physical properties of surfaces.

Prerequisite(s): GEOG 2013 or permission of the Department.

Lectures three hours a week.

GEOG 4108 [0.5 credit]

Permafrost

Distribution, development, and degradation of permafrost in Canada; thermal and hydrologic regime of permafrost terrain; development of landforms in permafrost regions; geotechnical consideration in northern construction. Prerequisite(s): GEOG 3108 or permission of the Department.

Lectures three hours a week.

GEOG 4303 [0.5 credit] Urban Planning

A systematic approach to urban planning; urban sprawl; data collection; forecasting; standards; space requirements; land use; zoning; transportation; land development; site selection; land capability; layout; evaluation; housing; urban renewal and new towns. Also listed as CIVE 4303.

Prerequisite(s): third-year standing, or permission of the Department.

Lectures three hours a week, problem analysis three hours alternate weeks.

GEOG 4304 [0.5 credit]

Transportation Engineering and Planning

Transportation and the socio-economic environment; modal and intermodal systems and components; vehicle motion; human factors, system and facility design; traffic flow; capacity analysis; planning methodology; environmental impacts; evaluation methods.

Also listed as CIVE 3304.

Prerequisite(s): third-year standing, or permission of the Department.

Lectures three hours a week, problem analysis three hours alternate weeks.

GEOG 4406 [0.5 credit]

Practicum I

Experience in an employment environment through field placement. Observation and involvement in issues and research methods used by professional geographers. May be taken for credit in addition to GEOG/GEOM 4408. Also listed as GEOM 4406.

Prerequisite(s): fourth-year Honours standing in Geography or Geomatics and permission of the Department.

Field placement one day a week.

GEOG 4408 [0.5 credit]

Practicum II

Experience in an employment environment through field placement. Observation and involvement in issues and research methods used by professional geographers May be taken for credit in addition to GEOG/GEOM 4406.

Also listed as GEOM 4408.

Prerequisite(s): fourth-year Honours standing in Geography or Geomatics and permission of the Department.

Field placement of one day a week.

GEOG 4906 [1.0 credit] Honours Research Project

A research project based on a modeling, laboratory or field problem. The project is supervised by a member of the department and a written thesis and poster must be submitted.

Precludes additional credit for GEOG 4904/GEOM 4904 (no longer offered), GEOM 4906, GEOG 4909, GEOM 4909, ENST 4906, and ENST 4907. Prerequisite(s): fourth-year Honours standing in B.Sc. Geography, and an approved research topic and adviser. Hours to be arranged with faculty adviser.

GEOG 4909 [1.0 credit] Honours Research Thesis

Independent design and implementation of a research project leading to the submission of a research thesis. Students work with an individual faculty adviser. The subject for research is decided upon in consultation with the supervisor.

Precludes additional credit for GEOG 4904/GEOM 4904 (no longer offered), GEOG 4906, GEOM 4906, GEOM 4909, ENST 4906, and ENST 4907.

Prerequisite(s): fourth-year Honours standing in B.A. Geography or B.Globalization and International Studies, a minimum CGPA of 9.00 in the major or permission of the Department, and an approved research topic and adviser. Hours to be arranged with faculty adviser.

Summer session: some of the courses listed in this Calendar are offered during the summer. Hours and scheduling for summer session courses will differ significantly from those reported in the fall/winter Calendar. To determine the scheduling and hours for summer session classes, consult the class schedule at central.carleton.ca

Not all courses listed are offered in a given year. For an up-to-date statement of course offerings for the current session and to determine the term of offering, consult the class schedule at central.carleton.ca