## **Special Application Process Required**



Name:	
udent ID:	
Date Admitted Into Major:	

## COMBINED BACHELOR OF SCIENCE CARTOGRAPHY AND

## MASTER OF SCIENCE GEO-INFORMATION SCIENCE GENERAL EDUCATION REQUIREMENTS **COURSES IN MAJOR (54 credits)** Major Core Courses (15 credits total) Competencies 115/115H Global Climate Change 3 GPH **GPH** 105/105H Introduction to Geography 3 OR ☐ ◆ Reading Comprehension World Regions 110 GPH 140 Introduction to Maps & GIS 3 **GPH** 301 Introduction to Quantitative **♣General Education Categories - 34-35 credits** Geography Geographic Research GPH 302 ◆FYS First Year Seminar 3 ♦W-I Written Communication - Level I 3 Major Concentration Courses (27 credits) **◆**OC **Oral Communication** 3 Cartography GPH 245 3 **PGR** Personal Growth & Responsibility 3 GPH 340 GIS 3 CEA Creative Expression & Appreciation 3 GPH 344 Remote Sensing 3 World Cultures WC 3 GPH 446 Advanced GIS HP The Human Past 3 GPH 343 Air Photos Interpretation CS 3 Contemporary Society OR 3 Digital Image Processing **GPH** 444 # Any SR course 3-4 Scientific SR GPH 903 Geographic Information Systems 3 Reasoning: # SR Lab course 4 **GPH** 909 Interpretation of Remote Sensing QR Quantitative Reasoning 3 Imagery # Written Communication (Level II and Level III) and Diversity, Advanced Geographic **GPH** 3 942 **Power Dynamics and Social Justice** Quantitative Methods GPH 945 **GIS Project Implantation** 3 W-II Written Communication - Level II **Techniques Electives (6 credits)** W-III Written Communication - Level III GPH 343 Air Photos Interpretation Diversity, Power Dynamics and DPDS 3 GPH 444 Digital Image Processing Minor/Free Electives (31 credits total) GPH GIS and Business 3 346 Additional free electives beyond the credits listed may be required based on 347 GPH **GIS Applications** 3 the use of support courses to satisfy the General Education Category GPH 442 Programming for GIS 3 requirements. Geography electives (6 credits) GPH Geography Elective 3 GPH Geography Elective 5<sup>th</sup> Year Courses (19 graduate credits)

Fall					
GPH	904	GIS for Research and Analysis	3		
GPH	960	Software Design and Programming in GIS	3		
GPH		Graduate Elective	3		
Spring					
GPH	952	Spatial Database Analysis and Design	3		
GPH	876	Directed Study (thesis) OR	4		
GPH	965	Seminar in GIS			
GPH		Graduate Elective	3		

Effective: 9/2021

▼ Students may choose to use support courses to satisfy general education categories but may not be required to do so. Note: If a course is used to satisfy two or more requirements (for example, a support course and Scientific Reasoning requirement), the credits are counted in only one place. Using a course to satisfy more than one requirement does not reduce the credit total required for graduation.

- Courses used to satisfy the general education requirements of the university must be taken from a minimum of six different academic disciplines. First Year Seminar and Level I Written Communications courses are exempt from this restriction. Courses may not be used to fulfill both major discipline and general education requirements.
- These Scientific Reasoning General Education Category courses do not have to be a sequence or be from the same discipline
- Level II, Level III Written Communications and Diversity, Power Dynamics and Social Justice Courses may be used to satisfy requirements anywhere else ‡ in a student's program of study where they may apply. The credits are counted only in one area.

♦ GENERAL EDUCATION CATEGORIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS ♦ COMPETENCIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS Exceptions in the timing of courses will be made for transfer students