

Special Application Process Required

Name: _____
 Student ID: _____
 Date Admitted Into Major: _____



**COMBINED BACHELOR OF SCIENCE CARTOGRAPHY
 AND
 MASTER OF SCIENCE GEO-INFORMATION SCIENCE**

| GENERAL EDUCATION REQUIREMENTS | | | | |
|---|------------------------------------|-----------------|--|--------------------------|
| Competencies | | | | |
| <input type="checkbox"/> ♦ Basic College Math <input type="checkbox"/> ♦ Reading Comprehension | | | | |
| ◆ General Education Categories - 34-35 credits | | | | |
| ◆FYS | First Year Seminar | | | 3 |
| ◆W-I | Written Communication - Level I | | | 3 |
| ◆OC | Oral Communication | | | 3 |
| PGR | Personal Growth & Responsibility | | | 3 |
| CEA | Creative Expression & Appreciation | | | 3 |
| WC | World Cultures | | | 3 |
| HP | The Human Past | | | 3 |
| CS | Contemporary Society | | | 3 |
| SR | Scientific Reasoning: | # Any SR course | | 3-4 |
| | | # SR Lab course | | 4 |
| QR | Quantitative Reasoning | | | 3 |
| ‡ Written Communication (Level II and Level III) | | | | |
| W-II | Written Communication - Level II | | | <input type="checkbox"/> |
| W-III | Written Communication - Level III | | | <input type="checkbox"/> |
| Minor/Free Electives (31 credits total) | | | | |
| Additional free electives beyond the credits listed may be required based on the use of support courses to satisfy the General Education Category requirements. | | | | |
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| COURSES IN MAJOR (54 credits) | | | | |
|--|-----|--|--|---|
| Major Core Courses (15 credits total) | | | | |
| GPH | 115 | Global Climate Change | | 3 |
| GPH | 105 | Introduction to Geography | | 3 |
| | | OR | | |
| GPH | 110 | World Regions | | |
| GPH | 140 | Introduction to Maps & GIS | | 3 |
| GPH | 301 | Introduction to Quantitative Geography | | 3 |
| GPH | 302 | Geographic Research | | 3 |
| Major Concentration Courses (27 credits) | | | | |
| GPH | 245 | Cartography | | 3 |
| GPH | 340 | GIS | | 3 |
| GPH | 344 | Remote Sensing | | 3 |
| GPH | 446 | Advanced GIS | | 3 |
| GPH | 343 | Air Photos Interpretation | | 3 |
| | | OR | | |
| GPH | 444 | Digital Image Processing | | |
| GPH | 903 | Geographic Information Systems | | 3 |
| GPH | 909 | Interpretation of Remote Sensing Imagery | | 3 |
| GPH | 942 | Advanced Geographic Quantitative Methods | | 3 |
| GPH | 945 | GIS Project Implantation | | 3 |
| Techniques Electives (6 credits) | | | | |
| GPH | 343 | Air Photos Interpretation | | 3 |
| | | OR | | |
| GPH | 444 | Digital Image Processing | | |
| GPH | 346 | GIS and Business | | 3 |
| GPH | 347 | GIS Applications | | 3 |
| GPH | 442 | Geospatial Programming | | 3 |
| Geography electives (6 credits) | | | | |
| GPH | | Geography Elective | | 3 |
| GPH | | Geography Elective | | 3 |
| 5th 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) | | 4 |
| | | OR | | |
| GPH | 965 | Seminar in GIS | | |
| GPH | | Graduate Elective | | 3 |

♥ 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 and Level III Written Communications 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.

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|--|--|
| ◆ COMPETENCIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS | ◆ GENERAL EDUCATION CATEGORIES - TO BE COMPLETED WITHIN THE FIRST 30 CREDITS |
|--|--|

Exceptions in the timing of courses will be made for transfer students