# HONORS SPECIALIZATION IN GIS – BSc (10.0 courses)

## Admission Requirements
Completion of first year requirements*, including 1.0 course Geography 1100 Fundamentals of Geography, 1300A/B Intro to the Physical Environment, 1400F/G Intro to the Human Environment, 1500F/G Environment & Development Challenges, 2131A/B Natural Environment, 2153A/B Environment, Economy, & Society, Environmental Science 1021F/G Environmental Science & Sustainability & 3.0 courses from the Faculty of Science, not including Astronomy 1011A/B, 1021, Biology 1225, 1229A/B, 1290B, Chemistry 1027A/B, Computer Science 1011A/B, 1032A/B, 1033A/B, Earth Sciences 1086F/G, 1088F/G, 1089F/G, Mathematics 0110A/B, Physics 1021. Students must have an average of at least 70% in Geography and 2.0 courses from the Faculty of Science, with no mark in these principal courses below 60%.

1. 1.0 from Geography 1100, 1300A/B, 1400F/G, 1500F/G, 2131A/B, 2153A/B,
   Environmental Science 1021F/G

2. Science

3. Science

4. Science

5. 

*You may take senior courses only if you have completed all first year requirements or you are completing them concurrently.

## Module Requirements

### 0.5*: Geography 2210A/B Spatial Analysis (normally taken in Year 2)
*In cases where an antirequisite statistics course has been taken instead, the module will be 9.5 courses.

1. **1.5: Geography 2220A/B Geographic Information Science**
   - 2230A/B Remote Sensing
   - 2240A/B Introductory Cartography

2. **1.0: Geography 2310A/B Weather and Climate**
   - 2320A/B Introductory Biogeography
   - 2330A/B Geomorphology and Hydrology
   - 2410A/B Social Geography
   - 2411F/G Indigenous Environments
   - 2420A/B Economic Geography
   - 2430A/Public Health and Environment
   - 2450F/G Introduction to Resource and Environmental Management
   - 2460F/G Introduction to Urban Development
   - 3250A/B Social Science Research Methods in Geography

3. **1.5: Geography 3210A/B Quantitative Analysis in Geography** (normally taken in Year 3)
   - 3211A/B Spatial Statistics
   - 3222A/B Geographic Information Science II

4. **1.5: Computer Science 2034A/B Data Analytics: Principles and Tools**
   - 2120A/B Computing and Informatics for Life Sciences
   - Earth Science 3323A/B Introduction to Geodesy & Remote Sensing
   - 3350Y Advanced Field Mapping Techniques
   - Geography 3211A/B Advanced Seminar in Geographic Information Science
   - 3223A/B Decision-Making with GIS
   - 3231A/B Advanced Topics in Remote Sensing
   - 3260A/B Environmental Modeling with GIS and Remote Sensing
   - 3321A/B Advanced Biogeography
   - 3421A/B Location Theory and Analysis
   - 4220A/B GeoWeb and Geomedia

5. **0.5: Geography 4000A/B The Nature & Philosophy of Geog**

**3.5:** Geography at the 3000 level or above, with Geography 3000Y or 3001F/G strongly recommended. Students wishing to pursue Graduate Studies are encouraged to take Geog 4900E Thesis.

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## Check List

### Year 1
- 5.0 courses numbered 1000-1999 in at least four different subjects
- 3.0 courses from Science
- 70% in 3.0 principal courses including 1.0 course from Geog and 2.0 from Science

| 1st Year PAVG: _____ |

### Module AVG: _____

### Essential Module:
- 10.0 courses specified for the Module

**Essays:**
- 2.0 designated essay courses including 1.0 numbered 2000 or above

**Breadth:**
- 1.0 Category A course – Social Science
- 1.0 Category B course – Arts
- 1.0 Category C course – Science

**Number of Courses:**
- 20.0 courses with no failures
- No more than 14.0 courses in a subject
- No more than 7.0 first year courses.
- 11.0 Science or Science-equivalent courses

**Averages:**
- 70% cumulative average in the Module
- 60% cumulative average in any additional Module taken
- 65% cumulative average on 20.0 courses successfully completed

**Grades:**
- Minimum mark of 60% for each course in the module
- Passing grade in each option

It is the student’s responsibility to check that all the graduation requirements have been met.