Course Requirements for the Geoinformatics Certificate

The Geoinformatics certificate program is a subtrack within the Interdisciplinary Graduate Program in Informatics (IGPI). All students enrolled in the IGPI subtracks must complete nine semester hours of general informatics coursework selected from three general categories:

**Introductory informatics (3 s.h.)**
- CS:3110 (22C:104) Introduction to Informatics (3 s.h.)
- Equivalent coursework approved by the subtrack coordinating committee

**Programming coursework (3 s.h.)**
- CS:3210 (22C:109) Programming Languages and Tools (3 s.h.)
- BME:5320 (051:123) Bioinformatics Techniques (3 s.h.)
- Equivalent coursework approved by the subtrack coordinating committee

**Data handling coursework selected from (3 s.h.)**
- MSCI:6200 (6K:272) Database Analysis and Design (3 s.h.)
- MSCI:6421 (06K:275) Knowledge Discovery (3 s.h.)
- SLIS:6100 (021:124) Database Systems (3 s.h.)
- CS:4400 (22C:144) Database Systems (3 s.h.)
- BIOS:5110 (171:161) Introduction to Biostatistics (3 s.h.)
- STAT:3200 (22S:152) Applied Linear Regression (3 s.h.)
- STAT:5200 (22S:164) Applied Statistics I (4 s.h.)
- STAT 5300 (22S:166) Computing in Statistics (3 s.h.)
- GEOG:3010 (44:141) Introduction to Geographic Databases (3 s.h.)

In addition to these three foundation courses, students pursuing a geoinformatics certificate will also take 12 semester hours of more focused coursework (for a total of 21 s.h.).

Please note that plans of study for the informatics certificate may not completely substitute for coursework or examinations required within the requirements of the disciplinary degree program.

**All geoinformatics students will take**
- GEOG:3010 (44:141) Introduction to Geographic Databases (3 s.h.)
- Equivalent coursework approved by the subtrack coordinating committee

For the remaining 9 s.h., students will, in consultation with their geoinformatics advisor and committee, students can select from the following courses. Note that students must take classes out of at least two of the following four departments.

**Geoinformatics Course Electives**
Department of Geography

Revised 4/8/2015
• GEOG:3540 (44:109) Introduction to Geographic Visualization (3 s.h.)
• GEOG:3520 (44:110) GIS for Environmental Studies: Introduction (3 s.h.)
• GEOG:3530 (44:112) Mapping American Cities and Regions (3 s.h.)
• GEOG:3310 (44:123) Landscape Ecology
• GEOG 4750 (44:125) Environmental Impact Analysis (3 s.h.)
• GEOG:4520 (44:128) GIS for Environmental Studies: Applications (3 s.h.)
• GEOG:4150 (44:137) Health and Environment: GIS Applications (3 s.h)
• GEOG:4570 (44:139) Spatial Analysis & Location Models (3 s.h.)
• GEOG:4580 (44:141) Introduction to Geographic Databases (3 s.h.)
• GEOG:4500 (44:145) Apps in Environmental Remote Sensing (3 s.h.)
• GEOG:3760 (44:175) Hazards and Society)
• GEOG:3340 (44:179) Ecosystem Services)
• GEOG:4870/EES:4870 (44:188/12:178) Applied Geostatistics (3 s.h.)
• GEOG:5070 (44:297) Special Topics (3 s.h.) *assuming relevant geoinformatic topic
• GEOG:5550 (44:243) Modeling space and time (3 s.h.)
• GEOG:5060 (44:296) Topics in Geographic Information Science (3 s.h.)

Graduate Program in Urban and Regional Planning
• URP:6225 (102:215) Applied GIS for Planners (3 s.h.)
• URP:6227 (102:217) Spatial Analysis in Planning (3 s.h.)
• URP:6228 (102:218) GIS for Local Government (1 s.h.)
• URP:6230 (102:220) Virtual Reality and Urban Development (3 s.h.)
• URP:4262 (102:162) Transportation Demand Analysis (3 s.h.)

Department of Geoscience
• EES:3100 (12:110) Introduction to Applied Remote Sensing (4 s.h.)
• GEOG:4870/EES:4870 (44:188/12:178) Applied Geostatistics (3 s.h.)

Department of Statistics and Actuarial Sciences
• STAT:7520 (22S:238) Bayesian Analysis (3 s.h.)
• STAT:5200 (22S:164) Applied Statistics I (4 s.h.)
• STAT 5201 (22S:165) Applied Statistics II (3 s.h.)
• STAT 5300 (22S:166) Computing in Statistics (3 s.h.)
• STAT:6530 (22S:167) Environmental and Spatial Statistics (3 s.h.)
• STAT:6560 (22S:156) Applied Time Series Analysis (3 s.h.)
• STAT:7400 (22S:248) Computer Intensive Statistics (3 s.h.)