GEOGRAPHY – GEOGRAPHIC INFORMATION SYSTEMS (GIS) TRACK/B.S.

General Education Requirements

I. Required Skills and Competencies 15 cr
   ___ ENG 106 Writing First Year Seminar OR
   ENG 110 Advanced Placement Writing (3 cr)
   May need ENG 050 Basic Writing first, based on test results
   ___ HCS 100 Intro to Human Communication (3 cr)
   ___ Mathematical Competency—See math requirements under
   allied courses in major
   ___ HIS 105 Historical Foundations of Global Cultures (3 cr) AND
   ___ HIS 106 Thinking Historically in a Global Age (3 cr)

II. Categories of Knowledge 33 cr
   A: Logic/Numbers for Rational Thinking (3 cr)
      ___ CSC 190 Selected Topics: Programming in Python
   B: Literary, Artistic & Cultural Traditions (9 cr)
   ___ ______________________________
   ___ ______________________________
   ___ ______________________________
   C: Biological & Physical Sciences (9 cr)
   ___ ______________________________
   ___ ______________________________
   ___ ______________________________
   D: Political, Economic & Geographic Science (6 cr)
   ___ ______________________________
   ___ ______________________________
   ___ ______________________________
   E: Social & Behavioral Science (6 cr)
   ___ ______________________________
   ___ ______________________________
   ___ ______________________________

III. Library Skills Completed as part of the College Writing or Advanced Writing course

Required Geography Courses 15 cr
   ___ GEO 105 Physical Geography (3 cr)
   ___ GEO 202 GIS I (3 cr)
   ___ GEO 230 Economic Geography (3 cr)
   ___ GEO 244 Land Use (3 cr)
   ___ GEO 391 Geography Seminar (3 cr)

Geographic Information Systems GIS Track 18 cr

Required: 9 cr
   ___ GEO 339 Remote Sensing (3 cr)
   ___ GEO 352 Cartography (3 cr)
   ___ GEO 363 GIS II (3 cr)
   ___ GEO 420 GIS III (3 cr)

Select 2 courses: 9 cr
   ___ GEO 339 Remote Sensing (3 cr)
   ___ GEO 425 Image Processing (3 cr)
   ___ GEO 440 Field Techniques (3 cr)
   ___ GEO 441 Quantitative Methods (3 cr)
   ___ GEO 463 Applied Geophysical Imaging (3 cr)
   ___ GEO or ESS 400 Level Elective (3 cr)

Geography Internship
   ___ Internship Junior Status, 60 cr - 2.0 Required 3 cr

GIS Content Electives

Select 2 200-level or above GEO or ESS course (At least 1 must be 400-level)
   ___ GEO/ESS ___ GEO/ESS

Allied Sciences 27 + credits

Social Sciences [6+ credits]

Select two:
   ___ PLS 231 State and Local Government (3 cr)
__PLS 271 Introduction to Public Administration (3 cr)
__PLS 331 City Politics and Administration (3 cr)
__PLS 431 Pennsylvania Local Government (3 cr)
__SOC 220 Social Stratification (3 cr)
__SOC 346 City and Community (3 cr)
__SOC 363 Population Problems (3 cr)

Art/Computer Science/Information Management Systems [9+ credits]
Select three
__ART 217 Computer Design I (3 cr)
__CSC 110 Computer Science I (3 cr) + CSC 106 Lab (1 cr)
__CSC 111 Computer Science II (4 cr)
__CSC ___ (by advisement) (3 cr)
__MIS 142 Business Computer Systems (3 cr)
__MIS 240 Introduction to Programming Concepts (3 cr)
__MIS 300 Info Tech and Business Operations (3 cr)
__MIS 355 Database Applications (3 cr)

Math [6+ credits]
Select two:
__MAT 117 Applied Statistics (4 cr) (REQUIRED)
__MAT 140A College Algebra (4 cr) (Students who place at the advanced level in the mathematics placement/competency tests should not take MAT 140A)
__MAT 140B College Algebra (3 cr)
__MAT 175 Precalculus (3 cr)
__MAT 211 Calculus I (4)
__MAT 225 Discrete Mathematics (4 cr)

Technical Writing [3 cr]
ENG 238 Technical/Professional Writing

GENERAL EDUCATION ELECTIVES:
Recommended background courses:
__GEO 101 World Geography (3 cr)
__GEO 103 Geography of the U.S. and Canada (3 cr)
__GEO 140 Cultural Geography (3 cr)
Free Electives 25+ cr

*Major Requirement Fulfills General Education Credits
Total Graduation Requirements 120 cr

GPA Needed to Declare: 2.0
Helpful Hints for Advising:
Semester I GEO 101 World Geography or GEO 103 Geography of U.S. & Canada
GEO 105 Physical Geography
Semester II Core Course
General Education courses should be completed as soon as possible