GEOG 320
GEOGRAPHIC INFORMATION SCIENCE
TTh 1:30 to 3:15   BT2208
Spring 2012

Instructor: Jonathan Smith
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Office hours: TT 8:00-9:00, 10:30-11:30a.m.; Tues. 3:00-4:00; 5:30-
6:30p.m.; Wed. 1:30-2:30 or by appointment. Don't hesitate to call
(leave a voice mail message), email, or just drop by if you would like
to talk to me.

INTRODUCTION
    This course introduces the student to the rudiments of
geographic computer technology, spatial analysis, and
cartographic communication. Basically it involves problem
solving by asking geographic questions and then manipulating of a
spatial database with computer cartographic capabilities to
present the analyzed material. The course is a non-technical
treatment of an inherently technical subject. My goals are
three-fold: 1) to introduce maps as an effective medium of
communication, 2) to make the tool accessible to a wide spectrum
of users to enhance their productivity within their discipline,
and 2) begin to understand how a spatial approach to problem
solving and enhance decision-making.

COURSE FORMAT:
     This course introduces the student to some of the general
principles and applications of the cartographic arts, and
geographic information systems (GIS) in particular. The course is
divided into three parts: 1) lecture, 2) lab, giving the student
hands on experience with a very respected software package for
desktop cartography/GIS, ESRI's ArcGis 9.x (some web software
applications will be used to a limited extent), and 3)
application. Through explanation, exercises, surfing the net and
case studies, and a project, the student will gain an
understanding and working knowledge of this powerful analytical
and presentation tool.

COURSE PREREQUISITES:
    This is a 300 level course. Introduction to Geography is
recommended but not a prerequisite (come talk to me if you are
uneasy about taking it).

COURSE REQUIREMENTS AND EVALUATION:
    1. Attendance is necessary. Each day's productivity is
       reviewed.
    2. The test covers lecture material and is 100 points.
    3. The 15-20 exercises are 10 points apiece.
    4. The project is 100 points.

COURSE READINGS:
    The required text is Getting to know ArcGis Desktop: For
ArcGis 10, Tim Ormsby et al, ESRI Press.

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CLASS SCHEDULE--GEOGRAPHIC INFORMATION SCIENCE


Week 1      Introduction, Definitions and History

Week 2      Cartography, presentation issues

Week 3      Data management and acquisition; Spatial thinking

Week 4      Test, Introduction to the GUIs: 3, 4,

Week 5      Introduction cont., scale, measures, projections: 13

Week  6     Presentation, symbolization, and labels: 19, 5, 7

Week 7      Classification: 6

Week 8      Selection and Querying: 8, 9

Week 9      Midterm Break

Week 10     Spatial relationships: 10, 11, 12

Week 11     Geodatabases: 14

Week 12     Creating/modifying geographies: 15, 16

Week 13     Geocoding and x,y files: 17, 18

Week 14     GPS introduction, Case Studies

Week 15     Project Development and Presentations


Finals Week: Project presentations, continued
             (11:30 Tuesday, May 3)
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