CJUS 6171/ DSBA 6010 Geospatial Analytics and Crime
Fall 2019, M 5:30- 8:15 pm
CC 801 (class/lab)

Professor: Shannon Reid Email: s.reid@uncc.edu
Office Hours: Thurs 10am-12pm & by appointment
Office: 5082 Colvard

TA: James Rozier Email: jkoduru@uncc.edu

Required Texts:

Gorr & Kurland. GIS Tutorial: Basic Workbook 10.3 ESRI Press (GIS)


Occasional handouts and internet publications

Optional Texts:


Course Overview: The goal of this course is to familiarize students with ArcGIS software and the visualization of geographically oriented data. Throughout the course students will work through assignments and projects aimed at helping them understand how to think about a problem spatially and create maps and visualizations that help answer these problems. Students will finish the course with a project that connects them to outside agencies to help the agency better understand a problem they are dealing with.

Course Requirements: Students are required to read assigned chapters, attend all classes and participate in class discussion in a manner that reflects familiarity with the readings and previous class sessions. Students are required to be present from the beginning to the end of all class sessions, and to access the course website regularly to stay informed about any changes in lecture topics, assigned readings and other course announcements. Changes in the course schedule may be necessary, and where possible, announced in prior classes and by posting on the course website. The final grade will be assessed from performance on the following:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Attendance</td>
<td>10%</td>
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<tr>
<td>Homework</td>
<td>20%</td>
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<tr>
<td>Case</td>
<td>30%</td>
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<tr>
<td>Project</td>
<td>40%</td>
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Course project: Students will complete a project (assigned by the instructor) in groups. The project will consist primarily of building community partnerships for problem-solving. This will involve integrating data into ArcGIS and preparing a presentation at the end of the quarter. More information on the group project will be provided later.
Grading policy: Homework assignments will be graded at the beginning of the labs (HW from previous lab - one week later). Late homework will not be accepted.

Homework and lab assignments are to be done in pairs; work together but turn in one copy of your homework.

Case is treated as a take-home exam and must be completed individually: All work by students must be done independently, except for any assistance by the instructor or TA.

Class Schedule
Lecture & Lab

Aug. 19 - Intro to (Crime) Data & GIS - Maps as art and science
  MCPP: Chapter 1 - Context and Concepts
  Lab 1: Introduction to Map Building and GIS data
  HW: Tutorial 1 (Gorr & Kirkland)

Aug 26 – What Maps Do - How maps inform through data, design and type
  MCPP: Chapter 2 - What crime maps do (topical example)
  Lab 2: Basics of Map Design and Esthetics
  HW: Tutorial 2

Sept. 9 - Problem Analysis and GIS (using maps for problem-analysis)
  Online readings (in week 3 readings folder)
  Lab 3: GIS Outputs (layouts, custom templates, map animation)
  HW: Tutorial 3

Sept. 16 – Data and Intelligence & PROJECTS
  MCPP: Chapters 4 - Data selection for problem analysis
  Lab 4: Building geodatabases
  HW: Tutorial 4

Sept. 23 – Maps with a Purpose (exploratory vs. confirmatory approaches to problem analysis)
  Lab 5: Understanding spatial data (projections, vector data, census data)
  HW: Tutorial 5

Sept. 30 - Problem-Solving with (Crime) Analysis - From problem analysis to problem-solving
  Online readings (in week 6 readings folder)
  Lab 6: Geoprocessing (including automating geoprocessing)
  HW: Tutorial 6

Oct. 14 – Identifying Patterns in Geospatial Data
  Online readings (in week 7 readings folder)
  Lab 7: *CASE DUE*
  Digitizing features & spatially adjusting features
  HW: Tutorial 7

Oct. 21 – Analyzing Raw (unclean) Data and Trouble-shooting
  MCPP: Chapter 12, 13
  Lab 8: Geocoding processes
HW: Tutorial 8

Oct. 28 – Intro to Spatial Analysis
  MCPP: Chapter 14, 15
  Lab 9: Intro spatial analysis (proximity, buffers, cluster analysis)
HW: Tutorial 9

Nov. 4 – Intro to Spatial Analysis (cont’d)
  Lab 10: Spatial analyst (kernel density, raster value points)
HW: Tutorial 11

Nov. 11 – How to Present Geospatial Analytics Results to Laypersons
  Lab 11: Intro to 3D analyst
HW: Tutorial 10

Nov. 18 – Catch up and Final Issues
  HW: Any leftover lab/Group project work

Nov 25– Final Prep for presentations

Dec. 4 & Dec. 9 - Presentations

COURSE POLICIES (OR... A GUIDE TO DR. REID’S PET PEEVES AND THE LEGALISTIC-SOUNDING STUFF THAT I WRITE NOW SO THERE ISN’T ANY CONFUSION LATER)

Course Policies

Students are expected to respect their colleagues and instructors. This includes refraining from impulsively shouting out ideas and questions. Students are welcome to raise their hand and add to class discussion, but students should be prepared to explain their questions and ideas. Demeaning comments toward other students or their ideas will not be tolerated.

Out of respect for their colleagues and the instructor, students are expected to turn off all cell phones, pagers, iPods, and other electronic gadgets before class. Newspapers should be put away. Students are also expected to remain awake, avoid side conversations, and try their best not to distract others. The instructor may deduct points from students who disrupt class by any means.

If a student misses class, they are expected to get the notes from another student. The instructor will not make her lecture notes available.

Students are expected to live up to the University’s honor code and plagiarism will not be tolerated. Any individual caught cheating will receive a zero for that assignment. In addition, they will be referred to the Academic Integrity Board. More information about what constitutes plagiarism is available in the online. See the UNC Charlotte Code of Student Academic Integrity.

Attendance and Professionalism

Attendance will be recorded in lectures. Students without an attendance/professionalism violation will be eligible for an additional point on their final grade. It is the instructor’s hope that each student will earn this point. Violations such as leaving before lecture is complete, falling asleep, having a cell phone ring, texting, using a camera or phone to photograph slides, email questions clearly answered on the syllabus, derogatory or inflammatory comments directed at the
instructor or another student, other significant disruptions, or any similar behavior the instructor considers unprofessional. A student with excessive violations may even earn negative points.

If a disability or other special circumstance will prevent a student from reaching class on time or meeting other expectations, they should contact the Office of Disability Services and the instructor will make the appropriate accommodations.

**Grade Disputes**

As mistakes may occur and the instructor admits she is not perfect, students feeling that an error was made in grading an assignment may utilize the following procedure to challenge the score: Students should return a copy of their assignment along with a written statement arguing why the grade needs to be adjusted should be turned into the instructor within two weeks of the assignment’s return. An assignment or exam grade is considered final after two weeks of its posting. The instructor will evaluate the student’s argument and reevaluate the grade. The instructor will then discuss the argument with the student during office hours. Please be aware, the instructor may possibly downgrade the assignment if during the reassessment he notes additional errors and any curve applied to the original grading will no longer apply. Since a paper may be downgraded, group work will not be reevaluated unless all group members consent to the process. Students are asked not to email the instructor asking for special considerations at the end of the semester. Though she may curve the entire class’s grades or lower thresholds for certain letter grades, she will certainly not adjust a single individual’s grades.

**Academic Integrity**

All UNC Charlotte students have the responsibility to be familiar with and to observe the requirements of The UNC Charlotte Code of Student Academic Integrity (see the Catalog). This Code forbids cheating, fabrication, or falsification of information, multiple submission of academic work, plagiarism, abuse of academic materials (such as Library books on reserve), and complicity in academic dishonesty (helping others to violate the Code). Any further specific requirements or permission regarding academic integrity in this course will be stated by the instructor, and are also binding on the students in this course. Students who violate the Code can be punished to the extent of being permanently expelled from UNC Charlotte and having this fact recorded on their official transcripts. The normal penalty is zero credit on the work involving dishonesty and further substantial reduction of the course grade. In almost all cases, the course grade is reduced to "F." If you do not have a copy of the Code, you can obtain one from the Dean of Students Office or access it online at http://legal.uncc.edu/policies/ps-105.html. Standards of academic integrity will be enforced in this course. Students are expected to report cases of academic dishonesty they become aware of to the course instructor who is responsible for dealing with them.

**Accommodations**

Students requesting classroom accommodation must first register with the Office of Disability Services (ODS). The ODS will provide documentation to the student who then must provide this documentation to the instructor when requesting accommodation. To be clear: This is the student’s responsibility. Request for academic accommodations need to be made during the first week of the semester (except for unusual circumstances) so that arrangements can be made. No accommodations will be made unless recommended by the ODS.

**Copyright Issues**

Copyright law protects this syllabus, my lectures, and all materials distributed and presented to me during this course. You are authorized to take notes in this class, but that authorization extends only to making one set of notes for your personal use and no other use. You are not authorized, and it is a violation of University policy, to sell, license, commercially
publish, post, distribute, transmit, display, nor record notes from this class unless you have my written consent to do so. Students in this course have my permission to share notes with one another or with the Office of Disability Services, but may not transmit them to students not enrolled in this course this semester.

**Right to Modify Syllabus**

The standards and requirements set forth in this syllabus may be modified at any time by the course instructor. Notice of such changes will be by announcement in class and posted on the course’s webpage.

**FERPA and Privacy**

The Family Educational Rights and Privacy Act (FERPA) was enacted in 1974. Its purpose is to protect the privacy of student information, and this protection is achieved by controlling access to and disclosure of students' "education records," as that term is defined in FERPA. Faculty, staff, and administrative officers at UNC Charlotte are required by FERPA to treat education records confidentially, unless a legal exception applies, or the student provides written consent to disclose. Disclosure of a student's confidential education records requires prior written consent of the student (unless disclosure is permitted under certain exceptions to FERPA set forth in Section 99.31 of the FERPA Regulations). A student's written consent may be obtained by using the “Student Consent Form for Access to Education Records” available at http://legal.uncc.edu/sites/legal.uncc.edu/files/media/consentform.pdf. This form must be signed and provided to the instructor in advance of any disclosure. To be clear: Your instructor will not (and cannot legally) talk to your parents about your grades, attendance, and so forth unless you fill out, sign, and deliver the form described above.