Department of Social Sciences: Criminal Justice
Johnson C Smith University
Syllabus

CRIM 494 – Special Topics: Geographic Information Systems

Introduction:

This course covers the fundamentals of Geographic Information System (GIS) technology and how it is being applied in the field of Criminal Justice. Students will learn the processes to collect, organize, analyze and display geographic data obtained from sources such as address and coordinate geocoding, GPS, CD-ROM and World Wide Web sites, however, the emphasis of the course will be on data preparation, analysis and presentation. Each student will complete a series of lab exercises that illustrate the typical steps in a GIS project and demonstrate competence in selected aspects of crime analysis. The course will culminate with students carrying out their own GIS Crime Analysis Project and presenting their results. ESRI's ArcGIS software will be used for the laboratory portion of the course.

The primary objectives of the course are for the student to be able to:

- Define and describe a GIS;
- Identify the components of a GIS;
- Understand the process and elements of a GIS project;
- Become familiar with several applications of GIS in Criminology;
- Collect spatial data according to project aims;
- Input and manipulate tabular and spatial data;
- Use a GPS to collect and plot Latitude and Longitude data;
- Carry out spatial analysis using GIS analysis tools, according to project objectives;
- Be familiar with various mapping methods available for mapping crime;
- Understand the basic principles of graphic (maps and graphs) design;
- Prepare presentation materials (maps, graphs, tables) of good quality cartographic standards;
- Use ArcGIS to carry out a basic GIS Project.
- Present the results of the project in a professional manner.

Topics to be covered for achieving the above objectives are listed in the course outline below.

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Office Hours: Thursdays, 5-6 pm in McCrorey Hall, or by appointment.

Class Period: Thursdays, 6-9 pm

Venue: MCH 204

Requirements Each student is required to have their own laptop with ArcGIS 9.1 installed (with assistance of Frank Parker or Michael West) and with 500 mb of available storage space. Additional storage space can be obtained through purchase of a USB Drive. Additional software to be used includes Microsoft Word, Excel and Power Point.

Each student will be required to carry out a final project and present the project as part of an assigned group. Details will be given regarding specific project requirements.

Assignments will be submitted online, via email.
Every submitted assignment must include the following: A **filename** indicating the **exercise number and your name**, a **document header** with **your name and a subject line** (for email) indicating the **exercise number and your name.**

Methods of Teaching This is a hands-on, active learning course that will prepare you with valuable introductory-level job skills as a GIS crime analyst. Because the course meets only once a week for three hours, most classes will begin with lecture and discussion, but most of the class time will be used for hands-on GIS activities. There will be time to complete most of the lab assignments in class, but you will be expected to do some computer work outside class along with readings, and preparations for your final project and presentation. The final project will be done in part in groups and in part as individuals. Presentations will be given by groups, but each group member must participate in the presentation. The presentations will be professional in nature, as there will be invited guests. Further instructions on the content and style of presentation will be provided during the semester.

Data The data for this course is available on the G drive, under GIS. You may wish to download additional data from the Internet for your final project.

Assessment:

Class/Lab Exercises	40%
Midterm Examination	15%
Final Examination	20%
GIS Projects	15%
Group Project Presentations	5%
Class Attendance & Participation	5%

Late Policy Ten percent will be automatically deducted from all exercises that are handed in after the stated deadline. Any project handed in more than 2 weeks late will **NOT** be accepted.

University Policies See end of Syllabus for University Polices

University Grading Scale

90-100	A
80-89	B
70-79	C
60-69	D
59 or below	F

Resource Web Sites:

1. Subscribe to Crime Map Listserv at http://puborder.ncjrs.org/listservs/subscribe.asp
2. http://www.geog.ubc.ca/vgd/gis/gis.html
3. http://maps.esri.com/
4. http://www.colorado.edu/geography/gcraft/notes/intro/intro_f.html
5. http://www.colorado.edu/geography/gcraft/notes/gps/gps_f.html
6 http://www.gangsorus.com/
7 http://www.streetgangs.com/
8 http://mcsowebsvr.co.mecklenburg.nc.us/pasom/search.aspx
for sex offender notification search
9. http://cmpd.cicp.org/
10. http://data.geocomm.com/

Readings & Lab Exercises To be provided

Course Outline:

Date	Lectures/Exercises	Web Sites (W)
Aug. 24	Introduction; Overview of Syllabus; Overview of Lab Sessions; General description of GIS & its Application in Criminology ***Video: "GIS - Behind The District 2000-2001"*** Assistance with loading ArcGIS onto Laptops	**2-4**
Aug. 31	Introduction to GIS Data Layers; Elements of a GIS Project	**W:2 - 4**

	Exercise 1: ArcGIS Basics	
Sept. 7	GIS Terminology in Criminology GIS Database Design About Attribute Data Mapping Crime-Related Attributes	
	Exercise 2: Attribute Data Queries & Map Layouts	
Sept 14	Classroom Introduction to GPS & Geocoding Finish Exercise 2	**W: 5**
Sept 21	Locating and Mapping Crime Scenes with GPS "Field" Data Collection on Campus	**W: 5**
	Exercise 3: GPS Data Input & Mapping	
Sept 28	Complete Exercise 3	
	Midterm Examination Review	
Oct. 5	**M I D T E R M E X A M I N A T I O N**	
	Gang Video: Welcome to Durham	**W: 6-7**
	Discussion on Gangs and Gang Crime Analysis	
	Assignment for October 19: Report on Gangs in Mecklenburg County	
Oct. 12	**F A L L B R E A K - N O C L A S S**	
Oct. 19	Work on Assignment from October 5; Due October 26	
Oct. 26	Drug Arrest Analysis by 3 different Mapping Methods; Calculating Crime Rates	
	Exercise 4: Analysis of Drug Arrests using Attribute Data Input/Joins/Calculations	
Nov. 2	GIS Crime Analysis for Hopeful Communities **GIS Database Design for Hopeful Community Crime Assessment &**	

	Prevention; Instructions on Final Project Presentations
	Complete Exercise 4
Nov. 9	Juvenile Delinquency Risk Assessment Drug Dealing and it's effects on Juvenile Delinquency
	Exercise 5: Drug Arrest Hot Spot Mapping & Bi-Variate Analysis using Quality of Life Variables
Nov. 15	**GIS Day – Volunteer Assignments & Presentations; Networking opportunities with potential employers**
Nov. 16	Work on **Exercise 5**, Final **Projects** and **Project Presentations**
	E X A M R E V I E W
Nov. 23	**T H A N K S G I V I N G H O L I D A Y!!!**
	Prepare for Project Presentations **W: 14**
Nov. 30	**Project Presentations**
December 7	**FINAL EXAMINATION**

University Policies

Attendance Policy

Class attendance is required, and each student is expected to attend all classes. There should be no absence from class without adequate cause, such as ill health authenticated by a medical report, or other excuse considered by the instructor to be reasonable and/or in accordance with university attendance policy. A student is allowed, without penalty, as many hours of absences per tern as the number of credit hours for this class. A student who exceeds the maximum number of absences allowed may receive a failing grade for this course. Attendance will be taken daily and no student may sign the roll for another student who is absent. Any student who arrives late or leaves class early without the permission of the instructor will be marked absent.

Disruptive Behavior Policy

The Standards of Conduct are published in the Student Handbook and each student has a responsibility to become familiar with this document and with various other publications and regulations as promulgated by the University.

The University reserves the right to cancel the enrollment of any student who breeches this agreement or who violates the rules of the University when it is determined, through the established processes, that a student has breeched University rules.

The aim of disciplinary procedures is to encourage responsible behavior to maintain social order, and to protect the rights of persons in the university community.

The University's judicial system is necessary for the adjudication of interpersonal differences, conflicts, misconduct and violations.

Any student who engages in disruptive behavior in class and fails, to heed the instructor's warning to desist from such behavior will be requested to leave the classroom, in order to create a good teaching/learning environment. Other disciplinary action may be taken in accordance with the University's policy on disruptive behavior.

Accommodations Policy

This course is designed to accommodate the needs of students with diverse abilities and interests. However, if you require specific accommodations, please contact the instructor and accommodations will be gladly provided. Students requiring special assistance are also urged to register with the disability services office at (704) 378-1282.

Honor Code

I pledge that this work is my own and I will not cheat or represent the words, ideas, or projects of others as my own. I further pledge that I will not engage in academic dishonesty, which includes lying, stealing, or assisting others in misrepresenting their work. As a member of the student body of Johnson C. Smith University, I also pledge to report all violations of the Honor Code that I observe in others. I understand that violations of the Honor Code are subject to disciplinary procedures by the University.

Students and faculty are to govern themselves by the Honor Code to ensure the greatest measure of academic integrity. The University Honor Code will be acknowledged by students in relation to class assignments including out of class assignments, tests, written papers, as well as other assignments that involve student assessment. Student assessment may extend beyond classrooms and include all applied academic settings of the University.