**SOCL 4466 (GEOG 3043): Crime Mapping**  
Fall 2018

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<tr>
<th>Instructor: Prof. Matthew Valasik</th>
<th>Graduate Assistant:</th>
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<tbody>
<tr>
<td>Email: <a href="mailto:mvalasik@lsu.edu">mvalasik@lsu.edu</a></td>
<td>Email:</td>
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<td>Office: 17B Stubbs Hall</td>
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<td><strong>Office Hours:</strong> Thursdays, 2 - 4pm or by Appointment <strong>Office Hours:</strong></td>
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**Class Location/Time:** Tuesdays, 3:00pm - 5:50pm, 102 Stubbs Hall

**COURSE DESCRIPTION:**

Geographic information systems (GIS) are computerized systems designed for the storage, retrieval, and analysis of geographically referenced data. GIS uses advanced analytical tools to explore spatial relationships, patterns, and processes of cultural, biological, demographic, economic, geographic, and physical phenomena.

This course covers underlying geographic concepts (world coordinate system and projections, vector map topology, tiled and layered maps, etc.), map design and outputs, geodatabases, importing spatial and attribute data, digitizing, geocoding, spatial data processing, and advanced spatial analysis. Additional emphasis will be on crime mapping and analysis. The technical focus of the course includes computer lab tutorials and case studies using the leading desktop GIS software, ArcGIS from ESRI.

Application areas covered in this course include city and regional planning, community planning, economic development, education, election, and environmental studies, housing and property evaluation, transit and transportation issues, land use, historic studies, crime analysis and policing, emergency management, public works utilities, census population and demographic studies, health, and business applications, including marketing, advertising, and site selection.

By the end of the course, students will have sufficient background to identify spatial characteristics of diverse application areas, enabling them to integrate spatial thinking and GIS analysis into their academic research and careers.

**COURSE MATERIALS:**


Additional readings will be provided as pdfs on Moodle

**Thumb drive or other backup device— to copy GIS data to and from computer labs (1645)**
COURSE REQUIREMENTS & GRADING POLICY

Students are expected to come to class on time and remain for the entire class. Attendance is mandatory. This course is homework driven and all assignments will be graded at the beginning of the lab portion of class. In addition to homework there will be two or three case studies. **Cases are treated as take-home exams and must be completed individually.** All work by graduate students must be done independently, except for any assistance by the instructor. Lastly, students will complete a project (assigned by the instructor) in small groups. The project will consist primarily of integrating data into ArcMap and preparing a presentation at the end of the quarter. More information on the group project will be provided later.

Discussion among students on homework assignments and cases is encouraged for clarification of assignments, technical details of using software, and structuring major steps of solutions. Cheating and plagiarism are strictly forbidden. Cheating includes, but is not limited to plagiarism, submission of work that is not the student’s own, submission or use of falsified data, unauthorized access to exam or assignment, use of unauthorized material during an exam, supplying or communicating unauthorized information for an assignment or exam.

Grades will be distributed as follows:

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<th>Component</th>
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<tr>
<td>Class Attendance</td>
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<tr>
<td>Homework</td>
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<tr>
<td>Cases</td>
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<td>Project</td>
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Grading Scale:

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<th>Grade</th>
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COURSE POLICIES

*Academic Misconduct and Classroom Etiquette:* Students are expected to abide by the LSU student code of conduct. Students who are caught cheating on an exam will fail the course, with no exceptions. Students are also expected to abide by the basic rules of classroom etiquette including: getting to class on time and coming prepared to engage; turning off all electronic devices; not talking during lectures; and remaining respectful of diverse views when engaging in classroom debate. All views are allowed and welcome; however, expressing them in a respectful way is required. Reasonable people can disagree, but disagreement needs to be expressed in ways that are conducive to the free exchange of ideas, productive dialogue, and meaningful learning.

*Missed Classes:* If you miss a class, you will be required to provide written documentation of a valid reason for your absence within one week of the day (see LSU Policy Statement 22, posted on the course website, for examples of valid reasons for absences). Missing class more than once or twice is likely to compromise your grade.
Missed Exams: If you miss an exam, you will be required to provide written documentation of a valid reason for your absence within one week of the exam day (see LSU Policy Statement 22, posted on the course website, for examples of valid reasons for absences). All make-up exams will be administered at my discretion and at a time and place of my choosing. If you miss a scheduled make-up exam you will receive a zero for your exam grade, which will make it very difficult to pass this course.

Disability: Any student who feels he/she may need an accommodation based on the impact of a disability should contact the professor privately to discuss specific needs. Also, contact the LSU Disability Services at (225) 578-5919 as soon as possible to better ensure that accommodations are implemented in a timely fashion.

OUT OF CLASS EXPECTATIONS
It is expected that the students have read the assigned chapters or pages prior to class for the background necessary to properly participate in the discussion and think critically about the concepts addressed. As a general policy, for each hour you are in class, you (the student) should plan to spend at least two hours preparing for the next class. Since this course is for three credit hours, you should expect to spend around six hours outside of class each week reading or writing assignments for the class.

COURSE SUGGESTIONS:
Although it is not required, you are encouraged to:
1. Raise your hand in class, question the professor, and engage with the material via discussion!
2. Get acquainted with one another. Exchange e-mail addresses and phone numbers. Form study groups. Engage in collaborative learning. Studies show that students who engage in collaborative learning tend to do better in college and beyond.
3. See the professor and/or the GA as often as is necessary to do well in this course. Do not wait until problems are irreparable or concerns are outdated to seek assistance. Try to make it to our office hours but if that is not possible make an appointment. If you extend the effort, we will be available and willing to help you do well in this class.
COURSE SCHEDULE (Subject to Change):

WEEK 1 - August 20th: INTRODUCTION
Readings: Chapter 2: Mapping It Out - “Scale, Perspectives & Generalizations” by Mark Monmonier
Lab: GIS Tutorial 1-1 through 1-9
Homework: Assignments 1-1 & 1-2

WEEK 2 - August 27th: MAP DESIGN
Readings: Chapter 4: Design Principles to Guide GIS Use “Beyond Maps – GIS and Decision Making in Local Government” by John O’Looney
  Chapter 2: Cartographic Language in “Some truth with maps: A Primer on Symbolization and Design” by Alan M. MacEachren
Lab: GIS Tutorial 2-1 through 2-8
Homework: Assignments 2-1, 2-2 & 2-3

WEEK 3 - September 3rd: GIS OUTPUTS & LAYOUTS
Readings: Boba Santos - Chapter 1
Lab: GIS Tutorial 3-1 through 3-8
Homework: Assignments 3-1, 3-2 & 3-4

WEEK 4 - September 10th: FILE GEODATABASES
Readings: Boba Santos - Chapter 2
Lab: GIS Tutorial 4-1 through 4-6
Homework: Assignments 4-1 & 4-2

WEEK 5 - September 17th: SPATIAL DATA
Readings: Boba Santos - Chapter 3
Lab: GIS Tutorial 5-1 through 5-11
Homework: Assignments 5-1 & 5-2

Case #1 Assigned (Due Week 7 - October 1st)

WEEK 6 - September 24th: GEOPROCESSING
Readings: Boba Santos - Chapter 4
Lab: GIS Tutorial 6-1 through 6-7
Homework: Assignments 6-1 & 6-2

WEEK 7 - October 1st: DIGITIZING
Lab: GIS Tutorial 7-1 through 7-5
Homework: Assignments 7-1 & 7-2

WEEK 8 - October 8th: GEOCODING & GEOREFERENCING
Readings: Boba Santos - Chapter 5
Lab: GIS Tutorial 8-1 through 8-5
Georeferencing Tutorial
Homework: Assignments 8-1, 8-2 & 8-3

Case #2 Assigned (Due Week 10 - October 22nd)

WEEK 9 - October 15th: SPATIAL ANALYSIS
Readings: Boba Santos - Chapter 6
Lab: GIS Tutorial 9-1 through 9-4; Apportion Tutorial
Homework: Assignments 9-1, 9-2 & 9-3

WEEK 10 - October 22nd: ArcGIS Spatial Analyst for Desktop
Readings: Boba Santos - Chapter 7
Lab: GIS Tutorial 11-1 through 11-6
Homework: Assignments 11-1 & 11-2 / PROJECTS ASSIGNED

WEEK 11 - October 29th: ArcGIS Network Analyst for Desktop
Readings: Boba Santos - Chapter 13
Lab: GIS Tutorial 12-1 through 12-5
Homework: Assignments 12-1 & 12-2 / WORK ON PROJECTS

WEEK 12 - November 5th: WORK ON PROJECTS
Homework: WORK ON PROJECTS

WEEK 13 - November 12th: WORK ON PROJECTS
Homework: WORK ON PROJECTS

WEEK 14 - November 19th: WORK ON PROJECTS
Homework: WORK ON PROJECTS

WEEK 15 - November 26th: WORK ON PROJECTS
Homework: WORK ON PROJECTS

WEEK 16 - December 2nd: FINAL PRESENTATIONS & PIZZA PARTY
** YOU MUST ATTEND THE FINAL PRESENTATION TO PASS THIS COURSE!