

GEOL 3311-01; Principles of GIS; Fall 2017

MWF 10:20 -11:15; Room: Geology 109

Professor: Dr. Joseph M. Kruger, Geology 111B, 880-8233, joseph.kruger@lamar.edu

Office Hours: M,Tu,W,F 2:00 – 3:30 PM

Required Text: GIS Tutorial 1: Basic Workbook, 10.3.x edition, 2016. Authors: Wilpen L. Gorr and Kristen S. Kurland. Publisher: ESRI Press. **ISBN: 9781589484566.** You must have the 10.3.x edition.

Prerequisites:

Basic computer skills, preferably with Windows operating systems, MS Word, MS Excel, Internet search skills.

Course Description:

Students will work through computer lab tutorials and complete assignments in their workbook using ArcGIS software from Environmental Systems Research Institute (ESRI). This work will be done in class as well as outside of class time. A brief lecture will be given prior to each chapter but students will spend most of their time using the software. Topics covered include designing maps, outputting maps and other data, working with, developing and sharing geodatabases, spatial analysis of data, heads-up digitizing on the computer, geocoding, GPS acquisition, gridding, and contouring. Applications covered in class include generation and analysis of census maps, political maps, maps for emergency personnel and various policymakers, marketing, and environmental studies.

Student Learning Outcomes:

Students who successfully complete this course are expected to be able to:

- 1) Create maps and geodatabases using ArcGIS.
- 2) Share maps and geodatabases with others.
- 3) Demonstrate they understand and can utilize various map projections, datums, and scales.
- 4) Analyze maps and geodatabases using the various tools available in ArcGIS
- 5) Digitize raster images, collect GPS data, grid data, create contour maps, and work with various types of spatial data in ArcGIS

Grading:

Homework and in-class assignments	80%
Midterm Exam	10%
Final Exam	10%

A = 90% or greater, **B** = 80% - 89%, **C** = 70% - 79%, **D** = 60% - 69%, **F** = less than 60%

Note: Final grades may be curved. One point extra credit for completing course evaluations and one for missing less than 4 days.

Note: Chapter assignments are due the next class period after the date indicated for the end of the chapter.

Late assignments will be penalized 5% per day unless excused by Dr. Kruger.

<u>Dates</u>	<u>Topic</u>	<u>Reading</u>
9/6 – 9/20	Computer Setup and Introduction	Chapter 1
9/22 – 10/2	Map Design	Chapter 2
10/4 – 10/13	GIS Outputs	Chapter 3
10/16 – 10/25	File Geodatabases	Chapter 4
10/27	Spatial Data	Chapter 5
10/30 – 11/1	Midterm Exam: Due by 5:00 PM on 11/1	Chapters 1 - 4
11/3 – 11/10	Spatial Data cont.	Chapter 5 cont.
11/13 – 11/22	Digitizing	Chapter 7
11/24	No Class: Thanksgiving Break	
11/27 – 12/6	Geocoding	Chapter 8
Extra Credit	GPS Exercise, Gridding, Contouring (<u>date TBD, must attend</u>)	No reading. In class only.
12/8	Final Exam: Handed out in class. Due by 1:30 PM on 12/11	Comprehensive

Drop Dates

10/6
11/10

Policy

Last day to drop or withdraw without academic penalty (even if failing).
Last day to drop or withdraw with academic penalty (only if passing).

Attendance Policy: You are required to attend all scheduled classes unless an excused absence is permitted by Dr. Kruger. No makeup exams except in the case of an excused absence. Any makeup exams must be taken within one week after the exam was given to the rest of the class, except in extenuating circumstances as determined by Dr. Kruger.

Disability Resource Center

"Lamar University is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center (DRC) is located in the Communications building room 105. Office staff collaborate with students who have disabilities to provide and/or arrange reasonable accommodations. For students: If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact the DRC at [409-880-8347](tel:409-880-8347) or drc@lamar.edu to arrange a confidential appointment with the Director of the DRC to explore possible options regarding equitable access and reasonable accommodations. If you are registered with DRC and have a current letter requesting reasonable accommodations, we encourage you to contact your instructor early in the semester to review how the accommodations will be applied in the course."

Academic Honesty Policy: It is expected that students will adhere to the Academic Honesty Policy as detailed in the Student Handbook (<http://students.lamar.edu/student-handbook.html>) or face failure and subsequent disciplinary action which may include a 0% for the assignment or exam, failure of the entire course, and possible expulsion from Lamar University, depending on the severity of the cheating.

Emergency Preparedness

As we begin this semester, I want to take a few minutes and discuss emergency preparedness. Lamar is a very safe campus and there is a low probability that a serious incident will occur here. However, we want to emphasize our emergency procedures for evacuation and shelter in place incidents. Our preparedness will be critical IF an unexpected event occurs!

Instructions for specific emergencies, such as severe weather, chemical release, active shooter, or fire can be found at:
<http://www.lamar.edu/about-lu/administration/risk-management/index.html>

Here are some simple things you should do in the event an emergency occurs during our class.

- Always follow the directions of the instructor or emergency personnel
- If told to evacuate, do so immediately.
- If told to shelter-in-place, find a room, in the center of the building with few windows, on the lowest level of the building.
- If told to lockdown, lock and barricade the door if possible. Turn off the lights and wait for police to arrive.

Emergency Procedures

Many types of emergencies can occur on campus; instructions for severe weather or violence/active shooter, fire, or chemical release can be found at:

<http://www.lamar.edu/about-lu/administration/risk-management/index.html>. Following are procedures for the first two:

Severe Weather:

- Follow the directions of the instructor or emergency personnel.
- Seek shelter in an interior room or hallway on the lowest floor, putting as many walls as possible between you and the outside.
- If you are in a multi-story building, and you cannot get to the lowest floor, pick a hallway in the center of the building.
- Stay in the center of the room, away from exterior walls, windows, and doors.

Violence/Active Shooter (CADD):

- **CALL** - 8-3-1-1 from a campus phone (880-8311 from a cell phone). Note: Calling 9-1-1 from either a campus phone or cell phone will contact Beaumont City Police Dispatch rather than University Police.
- **AVOID**- If possible, self-evacuate to a safe area outside the building. Follow directions of police officers.
- **DENY**- Barricade the door with desks, chairs, bookcases or any other items. Move to a place inside the room where you are not visible. Turn off the lights and remain quiet. Remain there until told by police it is safe.
- **DEFEND**- Use chairs, desks, cell phones or whatever is immediately available to distract and/or defend yourself and others from attack.

Academic Continuity Statement:

In the event of an announced campus closure in excess of four days due to a hurricane or other disaster, students are expected to log into Lamar University's website homepage (www.lamar.edu) for instructions about continuing courses remotely.