*all details subject to change
Department of Geography and Geology GISC 317: Geographic Information Systems
Instructor: Amy Nemon; Email: amy.nemon@wku.edu fastest way to contact me
Class: Web Summer

Course Description: This four-credit hour course is an introduction to the principles and applications of computer based geographic information systems. Spatial information sources, data encoding, storage, management, analysis, and display are highlighted through the application of GIS techniques to problems in a variety of fields, including land use and natural resource management, transportation, and urban and regional planning. Students will become acquainted with both raster and vector models using ArcGIS. Gisc 317 is the second of four courses in the 14-credit hour GIS certificate. For more information on the GIS certificate, please see www.wku.edu/gis

Prerequisite: Geog 316 - Fundamentals of GIS –In good standing (C or better).

Course Objectives and Outcomes: This is not just a course in how to use a software program. To ensure accurate results from the software one must understand the theoretical basis and geographic principles of GIS. After completing this course, a student should be able to:

- Understand and explain to others what GIS is, what the major components of the technology areand typical applications of GIS.
- Demonstrate an understanding of the geographic basis of GIS through correct use of Map projections, coordinate systems, scale, and cartographic generalization for different data sets.
- Understand the principles of the raster and vector data models and be able to create, modify, analyze and map data in both forms.
- Understand and explain the role of topology in the storage and analysis of geographic data.
- Understand the relationship between attribute and feature data and know how both are stored on disk.
- Identify, download, and manipulate into a useable format existing state and national data sets available over the internet.
- Use GIS analysis tools, including spatial and attribute queries and geographic visualization, to explore a data set and formulate a research question.
- Use basic vector analysis techniques, including buffering, overlay, and distance measurement, to solve a geographic problem.

Class Format and Policies: This course is administered with WKU's Blackboard. All assignments must be uploaded to Blackboard. Assignments emailed to the professor will not be accepted.
Exams: Exams should be taken at the scheduled time (see calendar). Make-ups will be given only for the following special circumstances: 1) a university-sponsored activity; 2) illness with a doctor's written excuse (no exception). You must notify me in advance unless physical circumstances prevent it.

Material needed:

- Text: (Required) Text: Mastering ArcGIS Pro. Maribeth Price. McGraw Hill. This is a first editi

- Backup drive to back up your homework and lab exercises. Your P: drive will hold small amounts but not the entire space needed for this course. I recommend a thumb drive with 16 GB storage. Only for transferring your data from one computer to another. Best to work off the hard drive of a computer as the software may have ill reactions when working on the thumb drives.
- Software is available for working from home. See the Day 1 items for details. Software does not work on a Mac and is not supported by WKU or esri but some experienced Mac users have made this happen, but you are on your own for that.
- A reliable internet source.
- WKU email: I will use the email that is set up in blackboard to correspond with you. I ask that you respond within 24 hours to questions I ask you (except over the weekends of course—if I email you on Friday please get back to me by Monday morning). I will extend the same courteousness to you. If you email me hours before an assignment is due there is a chance that I will not respond to you until after the assignment was due—again work a head to eliminate late penalties and this type of problem for yourself. Courteousness: Be kind. Unprofessional behavior will not be tolerated.

Grades: Grades & Course Expectations: GIS skills are best learned through repeated application, so this course is structured to provide you with multiple opportunities and exercises to practice and learn GIS skills. Finally, the labs require you to synthesize the skills learned and to apply them to a new situation. The labs require a higher level of thinking and independent decision making. Learning is also a collaborative endeavor. There will be times during this semester when your maps or other GIS products will be shared with the entire class for the class to comment on. This peer evaluation serves a dual purpose. It is intended to help the student whose work is critiqued improve their work. It is also intended to help you develop your critical analysis skills, which you can then apply to your own work on a continuing basis. For students taking the online version of the course, (during a regular semester), you can expect to spend a minimum of eight to twelve hours per week on the course. Grading Scale: The grading scale is as follows: A (90% - 100%), B (80-90%), C (70-80%), D (60-70%), F (Below 60%). Keep track of your grades on Blackboard. Curving will be done by my discretion. There is no extra credit, please do not ask.

Final Grades:

- 30% of final grade: 23 Exercises: Exercises are designed to teach you specific GIS skills and how to put them together for problem solving. They are not meant to be time consuming but will really drive home the tasks we are learning and prepare you for the upcoming Labs.
- 50% of final grade, 10% each, 5 Labs: Labs are substantial applications of skills learned in the course and require some original thinking. Labs require "synthesis" -using skills to solve problems without being given cookbook style instructions. This is where you show off what you have learned. They are completed mostly outside of class. I will assist you only to a point. The labs are like exams and you must complete them on your own. Labs will be graded based on the correctness of the solution and how well the solution is communicated in a map and lab write-up. If your submission contains broken links there will be a 10% deduction depending on the cause.

- 20% of final grade each, 10% each, 2 Exams: Exams are closed book and internet. If you navigate away from the test or open another window you will receive a 0 for the exam.

Late work: Students are given the due dates ahead of time and have ample time to complete the assignments. Being sick on the due date is not an excuse for an extension, please do not ask. Assignments should not be left to complete on just the day one is due. Late work will be accepted, at 10% deduction per day, UP TO THREE DAYS only. This policy is designed to encourage responsibility, accountability, and assist me in providing you with timely feedback. The assignments build on one another. It is important to start early for time to ask questions. Pay close attention to these dates. Plan to be finished before the due date.

Students with disabilities: In compliance with university policy, students with disabilities who require academic and/or auxiliary accommodations for this course must contact the Office for Student Disability Services in Downing University Center, A-200. The phone number is 270 745 5004. Please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the Office for Student Disability Services.

Academic Honesty: Each student should be aware of the student code of conduct found in WKU's student handbook. Examples of academic dishonesty include cheating on an exam, allowing another student to copy your work, either inside or outside of class; using work from previous semesters; and plagiarism. Caught cheating in this course will result in failing the course and possible removal from the University.

Schedule Change Policy: The Department of Geography and Geology strictly adheres to University policies, procedures and deadlines regarding student schedule changes. It is the sole responsibility of the students to meet all deadlines in regard to adding, dropping, or changing the status of a course. Only in exceptional cases will a deadline be waived. The student schedule exception appeal form shall be used to initiate all waivers. This form requires a written attachment of appropriate documentation. Poor academic performance, general malaise, or undocumented general stress factors are not considered as legitimate circumstances.

Important dates: A Daily Schedule can be found in blackboard: