

Geography 4330.001: Geographical Information Systems

Meets with Crij 5310.001

Wednesday 6:00 to 8:45 pm

Soules College of Business 207

Or by Zoom

Via Zoom link <https://uttyler.zoom.us/j/91754016961?pwd=Y2dDaGtBN3ZpSDI0NzBpcTJRT3JuQT09>

Passcode: **610492**

Fall 2021

Instructor: Dr. E. Cory Sills

Office: CAS 142

Office hours: MW 12:30 to 2:00 pm in person or via zoom

Via Zoom link:

<https://uttyler.zoom.us/j/92996096783?pwd=bWlqUVFsUkoyd3lYVzhFbFZyU0hzQT09>

Passcode: **379181**

Or by appointment

E-mail: esills@uttyler.edu ph:903-566-7442

Communications: I encourage you to visit my office hours via zoom or directly after class via zoom. This is a good opportunity for you to look over your homework, exams, ask questions, or seek clarification. If you cannot attend my office hours you may set-up an alternative time to meet. I will try to respond promptly to your emails. **In your email, include your first and last name and that you are enrolled in the GIS class.**

All of us, including myself, will need to be **flexible** this semester because of the coronavirus. If you are sick and cannot attend a class that is okay. All I ask, is that you communicate with me. If I get sick with Covid, you will be notified by email and I will send you a contingency plan. I understand that some students will be using their computers at home or in non-traditional locations with more distractions than an in-person class. If this happens (i.e. parent walks in, animal jumps on lap, or kid will not let you work) do not be embarrassed. Everyone is having to adjust to new ways of learning and working right now. I too will have distractions when I am teaching, especially from home.

Required texts:

1. Open Source Free Online Textbook: Essentials of Geographic Information Systems. Available on the course Canvas site.

Required materials: Computer or access to a computer.

Catalogue description: Geographic Information Systems Fundamentals of geographic information systems, including data capture, storage, processing, and output. Applications to various problems in the natural and social sciences.

Course objective: This course is a comprehensive introduction to the principles, techniques, and applications of Geographic Information Systems (GIS). The course is designed to combine lectures with practical application of the ArcGIS software. Upon successful completion of this course, you will be able to (1) understand basic concepts and principles of GIS, (2) gain hands-on experience in the use of GIS techniques and software, (3) learn how to analyze information spatially. Specific skills learned include ArcGIS software and SQL language.

Course format: We will meet in the classroom and/or online via zoom twice a week (**see the above zoom link**). You must have access to a computer or a laptop. The class will be a combination of lecture and practical application. The first half of the class will consist of lecture followed by a short break. The second part of class will consist of practical application (i.e. labs using the software program ArcGIS 10.8). Prior to class time, review the schedule for the class and read the assigned chapter or article. You will access the program ArcGIS using the virtual desktop on your personal computer. Type **one.uttyler.edu** directly into your url. The readings for the course allow completion of the labs. The lectures will introduce you to the basic fundamental principles of GIS and will not necessarily cover the same ground as the textbook. Indeed, they are intended to supplement each other rather than to completely overlap. I strongly recommend that you attend every class and complete all of the labs. I encourage relevant questions and comments during class time.

A question you have other students might also have, and thoughtful remarks will make the course more interesting for everyone, including myself.

Class Etiquette: I expect everyone in the classroom to be **respectful** of each other and treat everyone with dignity. I expect comments to be positive and objective and not judgmental and rude. **I expect all students to wear a mask in the classroom for protection.**

Exams and grading: There will be two exams that will be administered in the classroom (a midterm and a final). Exam 1 will cover material from the beginning of the semester and Exam 2 will cover material from the second part of the semester. Exams include multiple choice, true/false, and short answer. There will also be a series of 11 labs that will be assigned each week. You have approximately one week to finish each lab. **The lab assignments are due on Canvas by midnight the week after they are assigned (see schedule for due dates).** I will drop the lowest lab grade at the end of the semester. All lab instructions and submissions will be through Canvas.

Make-up tests will be given with a legitimate reason and in rare circumstances. Students should contact the instructor **prior** to the exam and not after if they will miss the exam. Make-up exams will not be given except when there are exceptional circumstances (be prepared to provide documentation of your circumstance, such as a doctor's note, police report, University-excused absence, *et cetera*). Five points will deducted each day for late labs.

- Grading scale: A 90-100% B 80-89.99% C 70-79.99%
 D 60-69.99% F 0-59.99%

Mid-term: 15%

Final: 15%

Lab Exercises: 70%

Total: 100%

Cell Phones/Lap tops: Turn off your ringer and do not use your cell phone during class – this includes text messaging. If you are expecting an important call please put your phone on vibrate and sit close to the door. This action will help minimize any disturbance to the class. **I will not be recording this class. Any video, photographic or audio recordings of the class must be approved by me.**

Important Covid-19 Information for Classrooms and Laboratories

Students are expected to wear face masks covering their nose and mouth in public settings (including classrooms and laboratories). The UT Tyler community of Patriots views adoption of these practices consistent with its [Honor Code \(Links to an external site.\)](#) and a sign of good citizenship and respectful care of fellow classmates, faculty, and staff.

Students who are feeling ill or experiencing symptoms such as sneezing, coughing, digestive issues (e.g. nausea, diarrhea), or a higher than normal temperature should stay at home and are encouraged to use the [UT Tyler COVID-19 Information and Procedures \(Links to an external site.\)](#) website to review protocols, check symptoms, and report possible exposure. Students needing additional accommodations may contact the Office of Student Accessibility and Resources at University Center 3150, or call (903) 566-7079 or email saroffice@uttyler.edu.

Recording of Class Sessions

Class sessions may be recorded by the instructor for use by students enrolled in this course. Recordings that contain personally identifiable information or other information subject to FERPA shall not be shared with individuals not enrolled in this course unless appropriate consent is obtained from all relevant students. Class recordings are reserved only for the use of students enrolled in the course and only for educational purposes. Course recordings should not be shared outside of the course in any form without express permission.

UT Tyler Honor Code

Every member of the UT Tyler community joins together to embrace: Honor and integrity that will not allow me to lie, cheat, or steal, nor to accept the actions of those who do.

Students Rights and Responsibilities

To know and understand the policies that affect your rights and responsibilities as a student at UT Tyler, please follow this link: <http://www.uttyler.edu/wellness/rightsresponsibilities.php>

Campus Carry

We respect the right and privacy of students 21 and over who are duly licensed to carry concealed weapons in this class. License holders are expected to behave responsibly and keep a handgun secure and concealed. More information is available at <http://www.uttyler.edu/about/campus-carry/index.php>

UT Tyler a Tobacco-Free University

All forms of tobacco will not be permitted on the UT Tyler main campus, branch campuses, and any property owned by UT Tyler. This applies to all members of the University community, including students, faculty, staff, University affiliates, contractors, and visitors.

Forms of tobacco not permitted include cigarettes, cigars, pipes, water pipes (hookah), bidis, kreteks, electronic cigarettes, smokeless tobacco, snuff, chewing tobacco, and all other tobacco products.

There are several cessation programs available to students looking to quit smoking, including counseling, quitlines, and group support. For more information on cessation programs please visit www.uttyler.edu/tobacco-free.

Grade Replacement/Forgiveness and Census Date Policies

Students repeating a course for grade forgiveness (grade replacement) must file a Grade Replacement Contract with the Enrollment Services Center (ADM 230) on or before the Census Date of the semester in which the course will be repeated. Grade Replacement Contracts are available in the Enrollment Services Center or at <http://www.uttyler.edu/registrar>. Each semester's Census Date can be found on the Contract itself, on the Academic Calendar, or in the information pamphlets published each semester by the Office of the Registrar.

Failure to file a Grade Replacement Contract will result in both the original and repeated grade being used to calculate your overall grade point average. Undergraduates are eligible to exercise grade replacement for only three course repeats during their career at UT Tyler; graduates are eligible for two grade replacements. Full policy details are printed on each Grade Replacement Contract.

The Census Date is the deadline for many forms and enrollment actions of which students need to be aware. These include:

- Submitting Grade Replacement Contracts, Transient Forms, requests to withhold directory information, approvals for taking courses as Audit, Pass/Fail or Credit/No Credit.
- Receiving 100% refunds for partial withdrawals. (There is no refund for these after the Census Date)
- Schedule adjustments (section changes, adding a new class, dropping without a "W" grade)
- Being reinstated or re-enrolled in classes after being dropped for non-payment
- Completing the process for tuition exemptions or waivers through Financial Aid

State-Mandated Course Drop Policy

Texas law prohibits a student who began college for the first time in Fall 2007 or thereafter from dropping more than six courses during their entire undergraduate career. This includes courses dropped at another 2-year or 4-year Texas public college or university. For purposes of this rule, a dropped course is any course that is dropped after the census date (See Academic Calendar for the specific date).

Exceptions to the 6-drop rule may be found in the catalog. Petitions for exemptions must be submitted to the Enrollment Services Center and must be accompanied by documentation of the extenuating circumstance. Please contact the Enrollment Services Center if you have any questions.

Disability/Accessibility Services

In accordance with Section 504 of the Rehabilitation Act, Americans with Disabilities Act (ADA) and the ADA Amendments Act (ADAAA) the University of Texas at Tyler offers accommodations to students with learning, physical and/or psychological disabilities. If you have a disability, including a non-visible diagnosis such as a learning disorder, chronic illness, TBI, PTSD, ADHD, or you have a history of modifications or accommodations in a previous educational environment, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student application. The Student Accessibility and Resources (SAR) office will contact you when your application has been submitted and an appointment with Cynthia Lowery, Assistant Director of Student Services/ADA Coordinator. For more information, including filling out an application for services, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices>, the SAR office located in the University Center, # 3150 or call 903.566.7079.

The University of Texas at Tyler has a continuing commitment to providing reasonable accommodations for students with documented disabilities. Like so many things this Fall, the need for accommodations and the process for arranging them may be altered by the COVID-19 changes we are experiencing and the safety protocols currently in place. Students with disabilities who may need accommodation(s) in order to fully participate in this class are urged to contact the Student Accessibility and Resources Office (SAR) as soon as possible, to explore what arrangements need to be made to ensure access. If you have a disability, you are encouraged to visit <https://hood.accessiblelearning.com/UTTyler> and fill out the New Student Application. For more information, please visit the SAR webpage at <http://www.uttyler.edu/disabilityservices> or call 903.566.7079.

Student Absence due to Religious Observance

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor of such absences by the second class meeting of the semester.

Student Absence for University-Sponsored Events and Activities

If you intend to be absent for a university-sponsored event or activity, you (or the event sponsor), must notify the instructor at least two weeks prior to the date of the planned absence. At that time the instructor will set a date and time when make-up assignments will be completed.

Social Security and FERPA Statement

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number. The electronic transmission of grades (e.g., via e-mail) risks violation of the Family Educational Rights and Privacy Act; grades will not be transmitted electronically.

Emergency Exits and Evacuation

Everyone is required to exit the building when a fire alarm goes off. Follow your instructor's directions regarding the appropriate exit. If you require assistance during an evacuation, inform your instructor in the first week of class. Do not re-enter the building unless given permission by University Police, Fire department, or Fire Prevention Services.

Student Standards of Academic Conduct

Disciplinary proceedings may be initiated against any student who engages in scholastic dishonesty, including, but not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

i. "Cheating" includes, but is not limited to:

- copying from another student's test paper;
- using, during a test, materials not authorized by the person giving the test;
- failure to comply with instructions given by the person administering the test;

- possession during a test of materials which are not authorized by the person giving the test, such as class notes or specifically designed “crib notes”. The presence of textbooks constitutes a violation if they have been specifically prohibited by the person administering the test;
- using, buying, stealing, transporting, or soliciting in whole or part the contents of an unadministered test, test key, homework solution, or computer program;
- collaborating with or seeking aid from another student during a test or other assignment without authority;
- discussing the contents of an examination with another student who will take the examination;
- divulging the contents of an examination, for the purpose of preserving questions for use by another, when the instructors has designated that the examination is not to be removed from the examination room or not to be returned or to be kept by the student;
- substituting for another person, or permitting another person to substitute for oneself to take a course, a test, or any course-related assignment;
- paying or offering money or other valuable thing to, or coercing another person to obtain an unadministered test, test key, homework solution, or computer program or information about an unadministered test, test key, home solution or computer program;
- falsifying research data, laboratory reports, and/or other academic work offered for credit;
- taking, keeping, misplacing, or damaging the property of The University of Texas at Tyler, or of another, if the student knows or reasonably should know that an unfair academic advantage would be gained by such conduct; and
- misrepresenting facts, including providing false grades or resumes, for the purpose of obtaining an academic or financial benefit or injuring another student academically or financially.

ii. “Plagiarism” includes, but is not limited to, the appropriation, buying, receiving as a gift, or obtaining by any means another’s work and the submission of it as one’s own academic work offered for credit.

iii. “Collusion” includes, but is not limited to, the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any section of the rules on scholastic dishonesty.

iv. All written work that is submitted will be subject to review by plagiarism software.

UT Tyler Resources for Students

- UT Tyler Writing Center (903.565.5995), writingcenter@uttyler.edu
- UT Tyler Tutoring Center (903.565.5964), tutoring@uttyler.edu
- The Mathematics Learning Center, RBN 4021, this is the open access computer lab for math students, with tutors on duty to assist students who are enrolled in early-career courses.
- UT Tyler Counseling Center (903.566.7254)

**Incidence of Scholastic Dishonesty: You will receive an automatic zero on the assignment.
All cases of plagiarism or cheating will result in an automatic zero for the assignment!**

What we cover in the lecture on a day-to-day basis may differ from the attached schedule. I will inform the class if topics change. All lab instructions are on Canvas. All labs will be submitted via Canvas.

Course Schedule

Week	Day	Date	Topic	Reading
1	W	8/25	Lecture: Mapping the Course/What is GIS? Activity: Mental Mapping Access the remote desktop and start ArcGIS	Syllabus/Chapter 1
2	W	9/1	Lecture: Mapping GIS Data Begin: Lab 1 Census date is Sept. 3	Chapter 3: Data, Information, and Where to Find Them
3	W	9/8	Lecture: Map Projections Begin: Lab 2 Due: Lab 1 at midnight	Chapter 2: Map Anatomy
4	W	9/15	Lecture: Cartographic Design Begin: Lab 3 Due: Lab 2 at midnight	Chapter 9: Cartographic Principles
5	W	9/22	Lecture: Raster and Vector Data Begin: Lab 4 Due: Lab 3 at midnight	Chapter 4: Data Models for GIS
6	W	9/29	Lecture: Attributes Review for Mid-term exam Begin: Lab 5 Due: Lab 4 at midnight	No Assigned Reading
7	W	10/6	Mid-term Exam beginning of class After exam continue working on lab	No Assigned Reading
8	W	10/13	Review Final Maps from Lab 4 Lecture: Data Types Begin: Lab 6 Due: Lab 5	Chapter 5.1: Geographic Data Acquisition
9	W	10/20	Lecture: Queries Begin: Lab 7 Due: Lab 6	Chapter 6: Data Characteristics and Visualization
10	W	10/27	Lecture: SQL Begin: Lab 8 Due: Lab 7	Reading posted to Canvas

11	W	11/3	Lecture: Spatial Analysis Begin: Lab 9 Due: Lab 8 Last Day to Withdraw is November 1	Chapter 7: Geospatial Analysis I: Vector Operations
12	W	11/10	Lecture: Spatial Analysis Continued Begin: Lab 10 Due: Lab 9	Chapter 8: Geospatial Analysis II: Raster Data
13	W	11/17	Lecture: Managing a GIS Database Begin: Lab 11 Due: Lab 10	Chapter 5.2: Geospatial Database Management and Chapter 10: Project Management
	W	11/24	Thanksgiving No Class	
14	W	12/1	Review for the Final Exam Due: Lab 11 All remaining labs due	No Assigned Reading
15	W	12/8	Final Exam TBA	