**E-mail**: charles.travis@uta.edu

**Office Number:** University Hall 325

**Office Hours:** by appointment

**Office Telephone:** 817-272-2861 (History Department)

**Mailbox:** University Hall 202

**Faculty Profile:** Assistant Professor of Geography.

**COURSE DESCRIPTION:** This course will outline the theories, methodologies and technologies required to create a rigorous and robust geographical information system (GIS). Students will be introduced to the basic and advanced features of a GIS, and provided with an overview of mixed method GIS techniques to engage quantitative and qualitative geo-data from a variety of disciplinary perspectives in the sciences and liberal arts. Course lectures and laboratories will focus on developing a student’s ability to think critically, spatially, and to gain practical skills in geo-data acquisition, parsing, management, visualization (2D & 3D) modelling, programming and analysis (locational, statistical and phenomenological). This course will help develop a student’s geographical problem solving skills and acquire the ability to conceptualize, organize, manage and execute a comprehensive GIS project which explores a topic related to a student’s specific academic or professional interest. This course consists of three overlapping sections. In the first section, students will gain GIS knowledge and practical skills through lectures and by conducting a series of consecutive guided and independent laboratories; in the second section, students will conceptualize their own tailor-made GIS course project with guidance from the course instructor. In the third section, students will execute their course project through supervised ‘active learning’ open GIS lab sessions, in conjunction with their peers.

**REQUIRED COURSE MATERIALS:** Kang-Tsung Chang (2016) *Introduction to Geographic Information Systems*, *8th Edition.* McGraw Hill.

* **LAB PDFs and Data will be posted on the course Blackboard Page.**

**Course Assessment:** Students will be expected to attend lectures and complete lab ALL LAB exercises. Students will conceptualize in conjunction with the course instructor a GIS project. Students will also be expected to submit a 1500 word referenced critical project write up and supply GIS data, visualizations, analysis and maps. It is expected that students will choose a project topic related to related courses, their area of interest, graduate thesis, or other professionally related subject.

**Grading:**

1. Attendance / Participation **(16.5%)**
2. Quiz & Map Exercise Assessment: **(16.5%)**
3. Lab Logs: **(33.3%)**
4. Project Write Up: **(33.3%)** -1500 word referenced write up, with GIS data, visualizations, analysis & maps.

The grading scale for the course is: **A = 90-100%; B= 80-89%; C= 70-79%; D= 60-69%; F = below 60%.** Students are expected to keep track of their performance throughout the semester and seek guidance from available sources (including the instructor) if their performance drops below satisfactory levels. See “*Student Support Services*” below.

**EXPECTATIONS FOR OUT-OF-CLASS STUDY:** Beyond the time required to attend each class meeting, students enrolled in this course should expect to spend at least an additional **9-12** hours per week of their own time in course-related activities, including reading required materials, completing assignments, preparing for exams, etc.

**LATE PAPER AND MAKE-UP POLICY:** Assignments will not be accepted past the due date. See Blackboard for due dates and *plan ahead*!

**GRADE GRIEVANCES:** Any appeal of a grade in this course must follow the procedures and deadlines for grade-related grievances as published in the current undergraduate catalog.

**ATTENDANCE:** At The University of Texas at Arlington, taking attendance is not required. Rather, each faculty member is free to develop his or her own methods of evaluating students’ academic performance, which includes establishing course-specific policies on attendance. As the instructor of this section, I have established following attendance policy:*Attendance will be recorded with a sign-in sheet at the beginning of each class.*

**DROP POLICY:** Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student's responsibility to officially withdraw if they do not plan to attend after registering. Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. Contact the Financial Aid Office for more information. (<http://wweb.uta.edu/aao/fao/>).

**DISABILITY ACCOMMODATIONS:** UT Arlington is on record as being committed to both the spirit and letter of all federal equal opportunity legislation, including *The Americans with Disabilities Act (ADA), The Americans with Disabilities Amendments Act (ADAAA),* and *Section 504 of the Rehabilitation Act.* All instructors at UT Arlington are required by law to provide “reasonable accommodations” to students with disabilities, so as not to discriminate on the basis of disability. Students are responsible for providing the instructor with official notification **in the form of a letter certified** by the Office for Students with Disabilities (OSD). Students experiencing a range of conditions (Physical, Learning, Chronic Health, Mental Health, and Sensory) that may cause diminished academic performance or other barriers to learning may seek services and/or accommodations by contacting:

* The Office for Students with Disabilities, (OSD) [www.uta.edu/disability](http://www.uta.edu/disability) or calling 817-272-3364.
* Counseling and Psychological Services, (CAPS)[www.uta.edu/caps/](http://www.uta.edu/caps/) or calling 817-272-3671.

Only those students who have officially documented a need for an accommodation will have their request honored. Information regarding diagnostic criteria and policies for obtaining disability-based academic accommodations can be found at [www.uta.edu/disability](http://www.uta.edu/disability) or by calling the Office for Students with Disabilities at (817) 272-3364.

**NON-DISCRIMINATION POLICY:** The University of Texas at Arlington does not discriminate on the basis of race, color, national origin, religion, age, gender, sexual orientation, disabilities, genetic information, and/or veteran status in its educational programs or activities it operates. For more information, visit [uta.edu/eos](http://www.uta.edu/hr/eos/index.php).

**TITLE IX POLICY:** The University of Texas at Arlington (“University”) is committed to maintaining a learning and working environment that is free from discrimination based on sex in accordance with Title IX of the Higher Education Amendments of 1972 (Title IX), which prohibits discrimination on the basis of sex in educational programs or activities; Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits sex discrimination in employment; and the Campus Sexual Violence Elimination Act (SaVE Act). Sexual misconduct is a form of sex discrimination and will not be tolerated. *For information regarding Title IX, visit* [www.uta.edu/titleIX](http://www.uta.edu/titleIX) or contact Ms. Jean Hood, Vice President and Title IX Coordinator at (817) 272-7091 or <jmhood@uta.edu>**.**

**ACADEMIC INTEGRITY:** Students enrolled all UT Arlington courses are expected to adhere to the UT Arlington Honor Code:*I pledge, on my honor, to uphold UT Arlington’s tradition of academic integrity, a tradition that values hard work and honest effort in the pursuit of academic excellence.* *I promise that I will submit only work that I personally create or contribute to group collaborations, and I will appropriately reference any work from other sources. I will follow the highest standards of integrity and uphold the spirit of the Honor Code.*UT Arlington faculty members may employ the Honor Code as they see fit in their courses, including (but not limited to) having students acknowledge the honor code as part of an examination or requiring students to incorporate the honor code into any work submitted. Per UT System *Regents’ Rule* 50101, §2.2, suspected violations of university’s standards for academic integrity (including the Honor Code) will be referred to the Office of Student Conduct. Violators will be disciplined in accordance with University policy, which may result in the student’s suspension or expulsion from the University.

**ELECTRONIC COMMUNICATION:** The University of Texas at Arlington has adopted the University *MavMail* address as the sole official means of communication with students. *MavMail* is used to remind students of important deadlines, advertise events and activities, and permit the University to conduct official transactions exclusively by electronic means. For example, important information concerning registration, financial aid, payment of bills, and graduation are now sent to students through the *MavMail* system. All students are assigned a *MavMail* account. Students are responsible for checking their MavMail regularly. Information about activating and using *MavMail* is available at http://www.uta.edu/oit/email/. There is no additional charge to students for using this account, and it remains active even after they graduate from UT Arlington. To obtain your NetID or for logon assistance, visit: <https://webapps.uta.edu/oit/selfservice/>. If you are unable to resolve your issue from the Self-Service website, contact the Helpdesk at [helpdesk@uta.edu](mailto:helpdesk@uta.edu).

**CAMPUS CARRY**: Effective August 1, 2016, the Campus Carry law (Senate Bill 11) allows those licensed individuals to carry a concealed handgun in buildings on public university campuses, except in locations the University establishes as prohibited. Under the new law, openly carrying handguns is not allowed on college campuses. For more information, visit <http://www.uta.edu/news/info/campus-carry/>

**EMERGENCY PHONE NUMBERS:** In case of an on-campus emergency, call the UT Arlington Police Department at 817-272-3003 (non-campus phone), 2-3003 (campus phone). You may also dial 911. Non-emergency number 817-272-3381

**STUDENT FEEDBACK SURVEY:** At the end of each term, students enrolled in classes categorized as “lecture,” “seminar,” or “laboratory” shall be directed to complete an online Student Feedback Survey (SFS). Instructions on how to access the SFS for this course will be sent directly to each student through MavMail approximately 10 days before the end of the term. Each student’s feedback enters the SFS database anonymously and is aggregated with that of other students enrolled in the course. UT Arlington’s effort to solicit, gather, tabulate, and publish student feedback is required by state law; students are strongly urged to participate. For more information, visit <http://www.uta.edu/sfs>

**FINAL REVIEW WEEK:** A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week *unless specified in the class syllabus*. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week. During this week, classes are held as scheduled. In addition, instructors are not required to limit content to topics that have been previously covered; they may introduce new concepts as appropriate.

**EMERGENCY EXIT PROCEDURES:** Should we experience an emergency event that requires us to vacate the building, students should exit the room and move toward the nearest exit. When exiting the building during an emergency, one should never take an elevator but should use the stairwells. Faculty members and instructional staff will assist students in selecting the safest route for evacuation and will make arrangements to assist individuals with disabilities.

**STUDENT SUPPORT SERVICES:** UT Arlington provides a variety of resources and programs designed to help students develop academic skills, deal with personal situations, and better understand concepts and information related to their courses. Resources include tutoring, major-based learning centers, developmental education, advising and mentoring, personal counseling, and federally funded programs. For individualized referrals, students may visit the reception desk at University College (Ransom Hall), call the Maverick Resource Hotline at 817-272-6107, send a message to [resources@uta.edu](mailto:resources@uta.edu), or view the information at [www.uta.edu/resources](http://www.uta.edu/resources).

The Library’s 2nd floor Academic Plaza offers students a central hub of support services, including IDEAS Center, University Advising Services, Transfer UTA and various college/school advising hours. Services are available during the library’s hours of operation. <http://library.uta.edu/academic-plaza>

**THE ENGLISH WRITING CENTER:** Located in the Main Library, Room 411. Hours are 9 am to 8 pm Mondays-Thursdays, 9 am to 3 pm Fridays and Noon to 5 pm Saturdays and Sundays. Walk In *Quick Hits* sessions during all open hours Mon-Thurs. Register and make appointments online at <http://uta.mywconline.com>. Please see <www.uta.edu/owl for detailed information>.

**The IDEAS Center** (2nd Floor of Central Library) offers free tutoring to all students with a focus on transfer students, sophomores, veterans and others undergoing a transition to UT Arlington. To schedule an appointment with a peer tutor or mentor email [IDEAS@uta.edu](mailto:IDEAS@uta.edu) or call (817) 272-6593.

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* 2-3003 (campus phone)
* You may also dial 911.

**SCHEDULE**

* **Week 1: (Jan 18) INTRODUCTION** (Course Orientation)
  + - **Spatial Perception Exercise**
    - **Chang, Chapter 1:***Introduction*
* **Week 2: (Jan 25) Spatial Thought / Coordinate Systems.**
  + **Lab 1**: Introduction to basic data management and visualization.
  + **Chang, Chapter 2:** *Coordinate Systems*
* **Week 3: (Feb 1) Vector and Raster Data.**
  + **Lab 2:** Editing layers.
  + **Chang, Chapter 3:** *Vector Data Model***; Chapter 4:** *Raster Data Model*
* **Week 4:** **(Feb 8) Data Management / Data Join.** 
  + **Lab 3:** Building your first GIS.
  + **Chang, Chapter 8:** *Attribute Data Management*
* **Week 5: (Feb 15) Project Data Sources ArcTool Box & Geoprocessing.**
  + **Lab 4:** Spatial analysis tools.
  + **Chang, Chapter 10:** *Data Exploration*
* **Week 6: (Feb 22) Spatial Data Processing & Analysis.**
  + **Lab 5:** Processing your data.
  + **Chang, Chapter 11:** *Vector Data Analysis***; Chapter 12:** *Raster Data Analysis*
* **Week 7: (Mar 1) Modelling & Programming.**
  + **Lab 6:** Coding and Model building.
  + **Chang, Chapter, 18:** *GIS Models and Modelling*
* **Week 8:** **(Mar 8) Third Dimensional Visualization and Analysis.**
  + **Lab 7:** 3D Visualization and Animation.
  + **Chang, Chapter 13:** *Terrain Mapping and Analysis*
* **SPRING BREAK (NO CLASS)**
* **Week 9: (MAR 22) Displaying Geo-data.**
  + **Lab 8:** Mapmaking.
  + **Chang, Chapter: 9** *Data Display & Cartography*
* **Week 10: (Mar 29)** Individual Student Meeting with Instructor to Discuss Course Project / Independent GIS Lab Exercise.
* **Week 11: (Apr 5) Open Lab GIS Quiz**
* **Week 12: (Apr 12)** Individual Student Meeting with Instructor to Discuss Course Project / Independent GIS Lab Exercise.
* **Week 13: (Apr 19)** COLLABORATIVE, OPEN LAB GIS PROJECT SESSION.
* **Week 14: (Apr 26)** COLLABORATIVE, OPEN LAB GIS PROJECT SESSION.
* **Week 15: (May 3)** COLLABORATIVE, OPEN LAB GIS PROJECT SESSION.

**\*\*NO FINAL EXAM -PROJECTS DUE FRIDAY MAY 5 @ 5PM\*\***