GEO 375.001 GIS and Health - Spring 2019
(Tentative syllabus – confirm first class session):

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Office hours: Wednesday 1030-330; online daily; other hours by appointment

Course description (from catalog): Introduction to the use of geographic information systems (GIS) for analyzing public health data and patterns.

Class meeting place and time, attendance: Forestry 108 Wednesday 4-630pm; Class attendance is highly recommended due to frequent quizzes and lab exercises. Attendance is recorded by quizzes and labs (and handing back of quizzes and lab products). The official policy is at: http://www.sfasu.edu/policies/class-attendance-and-excused-absence-6.7.pdf


Grading: 90-100% =A; 80-90% =B; 70-80% =C; 50-70% =D.

20% quizzes – Approximately eight five-question multiple choice quizzes based mostly on lectures/slide shows summarizing GIS and Public Health. Lowest 20% (two) quizzes dropped.

20% ESRI online certificate – Going Places with Spatial Analysis; Feb. 6th to March 20th. https://www.esri.com/training/catalog/57660f19bb54adb30c945b0/going-places-with-spatial-analysis/

60% lab exercises – Approximately ten lab exercises (~6% each) based on GIS Tutorial for Health and ArcGIS Pro exercises.

Student (Course) Learning Outcomes (SLOs) (most of these will be covered in each world region)
After successfully completing this course, a student will be able to:
(1) Identify spatial aspects of public health issues;
(2) Discuss the role of location in public health.
(3) Define major terms in health geography.
(4) Use GIS software to access health data and illustrate its geographic patterns;
(5) Describe examples of the use of GIS to inform public health policy.

Program Learning Outcomes (PLOs) The geography program has these objectives for its students:

PLO 1. The student will be able to prepare written/verbal presentations presenting geographical research using analyses and synthesis of appropriate documents and primary data. (Corresponding SLOs – 1-5)
PLO 2. The student will possess geographic literacy as evidenced by the identification of the major concepts involved with human spatial and ecological relationships. (Corresponding SLOs – 1-5)
PLO 3. The student will be able to apply geographical knowledge and skills to a variety of settings. (Corresponding SLOs – 1-5)
PLO 4. The student will recognize the implicit assumptions behind claims of knowledge about the spatial world, will be able to evaluate and distinguish between strong and weak arguments, and will be able to draw conclusions from a set of premises. (Corresponding SLOs – 1-5)
PLO 5. The student will be able to read geographical research and to identify its major methodological strengths and weaknesses. (Corresponding SLOs – 1-5)
Calendar

January 23rd – Lecture Ch. 1 GIS and Public Health - Introduction to GIS slide show;
   Lab - Introductory lab exercise – Getting Started with GIS
January 30th – Lecture Ch. 2 GIS and Public Health - Spatial Data;
   Lab - Introductory lab exercise 2 - Getting Started with GIS (continued)
February 6th – Lecture Ch. 3 GIS & P. Health - Spatial Databases for Public Health; ESRI course starts
   Lab - Ch. 1 GIS Tutorial for Health - Introducing GIS and Health Applications
February 13th – Lecture Ch. 4 GIS and Public Health – Mapping Health Information
   Lab - Ch. 2 GIS Tutorial for Health - Visualizing Health Data
February 20th – Lecture Ch. 5 GIS and Public Health – Analyzing Spatial Clustering of Health Events
   Lab - Ch. 3 GIS Tutorial for Health - Designing Maps for a Health Study
February 27th – Lecture Ch. 6 GIS and Public Health – Analyzing Environmental Hazards
   Lab – Ch. 4 GIS Tutorial for Health - Projecting, Downloading, and Using Spatial Data (Wellness Fair 10-2)
March 6th – Lecture Ch. 7 GIS and Public Health – Analyzing the Risk and Spread of Infectious Diseases
   Lab – Ch. 6 GIS Tutorial for Health – Geocoding Tabular Data
March 13th – Lecture Ch. 8 GIS and Public Health – Exploring the Ecology of Vector-Borne Diseases
   Lab – Ch. 7 GIS Tutorial for Health – Processing and Analyzing Spatial Data
March 20th – Spring Break
March 27th - Lecture Ch. 9 GIS and Public Health – Analyzing Access to Health Services
   Lab – Ch. 8 GIS Tutorial for Health – Transforming Data Using Approximate Methods
April 3rd – Lecture Ch. 10 GIS and Public Health – Locating Health Services
   Lab – Ch. 9 GIS Tutorial for Health – Using ArcGIS Spatial Analyst for Demand Estimation
April 10th – Lecture Ch. 11 GIS and Public Health – Health Disparities
   Lab - Ch. 10 GIS Tutorial for Health – Studying Food-Borne Disease Outbreaks
April 17th – Lecture Ch. 12 GIS and Public Health – Public Participation GIS and Community Health
   Lab – Ch. 11 GIS Tutorial for Health – Forming Local Chapters of ACHE
April 24th – Lecture ArcGIS Pro Introduction
   Lab - ArcGIS Pro health exercise 1
May 1st – Lecture ArcGIS Pro Introduction 2
   Lab - ArcGIS Pro health exercise 2
May 8th – Lecture ArcGIS Pro Introduction 3
   Lab - ArcGIS Pro health exercise 3
May 15th– Lecture ArcGIS Pro Introduction 4
   Lab - ArcGIS Pro health exercise 4

Time estimate: GEO 375 “GIS and Health” (3 credits) typically meets once each week (Wednesday 4-630) in 2.5 hour segments for 15 weeks. Students have weekly computer mapping assignments, are expected to take weekly quizzes based on class material. These activities are estimated to average a minimum three hours of work each week outside of classroom hours.

Make-up exams/Drop Policy: Students will not be given a make-up exam without written documentation of unavoidable issues submitted prior to the exam. Students are responsible for observing drop deadlines in the schedule of classes. For more info see the official university policy at: http://www.sfasu.edu/policies/course-add-drop_6.10.pdf
**Students with Disabilities** To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to [http://www.sfasu.edu/disabilityservices/](http://www.sfasu.edu/disabilityservices/).

**University Policies**: For policies on topics such as academic dishonesty, withdrawals, and accommodations for student with disabilities, etc., students are responsible for referring to the Stephen F. Austin State University 2010-2011 Bulletin. Academic dishonesty includes both cheating and plagiarism. *Academic Integrity (A-9.1)* Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism. *Definition of Academic Dishonesty* Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one's own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one's paper without giving the author due credit. Please read the complete policy at [http://www.sfasu.edu/policies/academic_integrity.asp](http://www.sfasu.edu/policies/academic_integrity.asp)

**Withheld Grades** *Semester Grades Policy (A-54)* Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. The instructor may assign an earlier deadline than one year. Students will not be given a withheld grade without official (non-student, non-family) written documentation of unavoidable issues submitted prior to the last day of class. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average. For the official university policy please see: [http://www.sfasu.edu/policies/course-grades.pdf](http://www.sfasu.edu/policies/course-grades.pdf)

**Acceptable Student Behavior**: Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program. Please see student conduct policy D-34.1K: [http://www.sfasu.edu/policies/student-code-of-conduct_10.4.pdf](http://www.sfasu.edu/policies/student-code-of-conduct_10.4.pdf) Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate or inappropriate in the classroom.