Applications of Geographic Information Systems (SP 2025)

Course Number: GEOG 2505 Session: 001

Credits: 3
Format: In person
Lecture (required): AUST 439, Mon 11:15 AM - 12:05 PM
Lab (required): AUST 439, Wed 11:15 AM - 12:05 PM
Lab (optional): AUST 439, Fri 11:15 AM - 12:05 PM

Office hours: AUST 431, Mon/Wed 12:05 - 1:00 PM

Professor: Xiang "Peter" Chen
Email: peter.chen@uconn.edu
Office: AUST 431

CATALOG DESCRIPTION

The objective of this course is to apply GIS techniques to solving real-world problems. More specifically the goals are: (1) to provide students with an understanding of how GIS can be applied in practical solutions; (2) to familiarize students with advanced GIS and modeling techniques; (3) to provide students with hands-on experience in working with various data sources. This course will rely heavily on both lecture and discussion about applications of GIS. Students will also be asked to gain hands-on experience in GIS applications by attending lab sessions, working on lab assignments and a major project related to their own area of interest. For the project, students will have to define their research/application problem, explain how modeling and GIS techniques are used and produce output from the results of the project.

TEXTBOOK (Not Required)

There are also required readings from a variety of newsletters and reports. They will be posted online in HuskyCT (http://huskyct.uconn.edu). Students are required to obtain the readings when these materials are introduced in class.

COURSE POLICIES

- Computers: We will be using *ArcGIS Pro*, which is only compatible with a **Windows based computers**. It is highly recommended that you acquire or have access to a Windows computer during the semester (e.g., working in the UConn library). If you do have a Mac, please follow the instructions on HuskyCT.

- E-Mail Correspondence: In all e-mails to the instructor, in the "Subject Line," **list the course**. Also, be sure that your name is somewhere on the email and on any attachments.

- Lab Policies: Discussion among students is expected and encouraged. However, lab assignments must be completed individually by each student. This means **exchanging files and maps will be considered plagiarism.**

- Work Submission: The assigned work will be posted on HusckyCT under Learning Modules. Work must be received by the due date **by 11:59 PM EST**. Late assignments will be given a point reduction. **The deduction is by 20% for each day after due. Submission three days past due will not be accepted** except under special circumstances.

- Exams: The course does not have any exam components.

- Final Project: A key component of this class will be a final project on which each student will work independently. The purpose of the project is to use GIS to answer a practical question that can only be, or is best answered using GIS methods. Students will first develop a project idea that will define the question to be addressed along with their approaches. Then, students will collect their own data, conduct the GIS-based research, and present the result in class. Guidelines of the project will be revealed in the class.

COURSE GRADING

Point Accumulation	
Assignments	**Percentage**
Lab Assignments (x11)	700
Class Quizzes	100
Final Project	200
TOTAL	**1000**

Grade Scale	
Percentage	Grade
930+	A
900–929	A-
870–899	B+
830–869	B
800–829	B-
770–799	C+
730–769	C
700–729	C-
670–699	D+
600–669	D
Below 600	F

CODE OF ACADEMIC CONDUCT

Acts of academic misconduct (including cheating on exams, submitting plagiarized exercises, providing inaccurate information about class absences, attempting to influence a grade by means beyond academic performance) will be handled according to the guidelines set forward by the *Student Conduct Code*, which can be found at http://community.uconn.edu. Consequences of misconduct include one or more of the following: a score of zero on the exam or assignment, a grade of **F** for the course, even possibility expulsion from the university.

LAB SCHEDULE*

Week	Date	Class Activity
1	1/22	*Class Intro: No Lab*
2	1/29	*P1: ArcGIS Pro Basics*
		A1: ArcGIS Pro Basics
3	2/5	*P2: Displaying Data*
		A2: Displaying Data and Classification Method
4	2/12	*P3: Geodatabase*
		A3: Geodatabase
5	2/19 (Student Assistant)	*P4-1: Querying Data + P4-2 Crime Analysis*
		A4-1: Querying Data + A4-2 Crime Analysis
6	2/26	*P5: Applying Accessibility Models*
		A5: Applying Accessibility Models
7	3/5	*P6-1: Map Layout + P6-2: TIGER Files*
		A6-1: Map Layout + A6-2: Mapping Shopping Center
8	3/12	*P7: Geocoding and Summarizing Data*
		A7: Geocoding and Traffic Crash Analysis
9	3/16-22	*Spring Break*
10	3/26 (AAG Conference, No Instructor)	*P8: Map Editing*
		A8: Campus Mapping
11	4/2	*P9: 3D GIS*
		A9: 3D GIS
12	4/9	*P10: ArcGIS Online Web Mapping*
		A10: My Favorite Places (Part 1)
13	4/16	*P11: ArcGIS Online App Development*
		A11: My Favorite Places (Part 2)
14	4/21 & 4/23	*Final Project*
15	4/28 & 4/30	*Final Project Presentation*

Practice (P): Submission is not required.
Assignment (A): Submission is required. It is normally due in one week (the Wed after).
Final Project: Submission is required at the end of the semester.
Break: No new homework.

*The schedule is subject to change. The latest schedule will be available on HuskyCT.