

UST 485/585 GIS Principles
MAXINE GOODMAN LEVIN SCHOOL OF URBAN AFFAIRS
COLLEGE OF PUBLIC AFFAIRS AND EDUCATION
CLEVELAND STATE UNIVERSITY

UST 485/585 GIS Principles	Prerequisite: UST 404/UST 504
Dr. Beth Nagy, B.U.P., M.C.P., Ed.D., GISP	Office Hours: See Blackboard
Office Location: Levin College, Room 224	Office Phone: 216-875-9907
Classroom: UR40	Email: b.a.nagy1@csuohio.edu

COURSE DESCRIPTION

This course focuses on the principles of Geographic Information Systems (GIS) as a tool to provide geospatial information analysis and displaying results using industry standard map design and output. Students learn techniques in importing attribute and spatial data; to recognize critical components of cartography to design appropriate map output; build attribute and spatial queries in problem-solving in spatially related project analysis. Laboratory exercises incorporate the use of GIS software to aid in the analysis of workplace problem situations.

COURSE OBJECTIVES

This course provides students with a comprehensive overview of mapping and GIS concepts.

The measurable objectives of the course are for students to be able to:

- Learn about the history of cartography,
- Use maps as information tools,
- Define geographic and cartographic concepts,
- Describe a GIS, its components, and applications,
- Demonstrate basic proficiency with a mapping platform (make maps!),
- Design and conduct a spatial analysis resulting in a map-based product.

TEXTBOOK & SUPPLIES

There is no required textbook for this class. Course materials will be made available through the course Blackboard page. Readings, discussion material, and assignments will be posted to and collected through the course Blackboard.

A 10GB flash drive is highly recommended for storing spatial data, with a cloud-based back up. If the internet goes out, cloud-based storage won't work, but a flash drive will.

INSTRUCTOR

Professor Nagy has been active in the GIS community for over twenty-five years. For more information about the professor, please check out the [CSU Faculty Profile for Dr. Beth Nagy](#) and/or her [LinkedIn profile](#).

CLASS EXPECTATIONS

The instructor expects students to be present, active learners supporting each other in the pursuit of knowledge. A typical class consists of announcements, review of assignments, lecture/discussion, activity/lab time, and expectations for the next class. Please be prepared to focus on GIS during class time. Students are often asked to present their work to the class.

For reference, a 4-credit hour class requires up to 12 contact hours, including class time. While the amount of time it takes to complete assignments varies from learner to learner, students should plan for about 9 hours per week outside of class on average. Graduate students have additional responsibilities to meet the requirements of the College for Graduate Studies. Additional responsibilities may be in the form of additional coursework and/or higher-level expectations for coursework.

Assignments are reviewed and provided feedback weekly. Students may revise and resubmit assignments to improve their performance, but late deductions cannot be recouped. Extra credit is not typically offered, but it's possible.

Using the software requires practice. There will be mistakes. There will be software glitches. Projects might crash. This class is not a competition. We are a team. Let's help each other. This demonstrates critical thinking and resourcefulness. The instructor may not have the specific answer you are looking for at that moment, but will always lead students in the right direction and affirm the results.

INCLEMENT WEATHER/EMERGENCY SITUATIONS NOTICE

Inclement weather is not uncommon in the Cleveland area. The instructor reserves the right to cancel in-person class meetings in the event of inclement weather or other emergencies that put students at risk (health and safety). It is also possible the instructor has an emergency requiring the cancelation of class. In any of these situations, in-person class meetings may be canceled, and the class session may take place via Zoom instead of in person. It is also possible that the class session (in-person or remotely) is canceled, and the syllabus schedule is adjusted.

Students will be notified as early as possible through the course BlackBoard announcements. Please turn your Blackboard notifications on to receive alerts, and check your email or Blackboard regularly.

TECHNICAL ASSISTANCE

For technical assistance with the online Blackboard system, contact [CSU's BlackBoard Technical Support](#). It is the student's responsibility to ensure that they can access the Blackboard regularly. The instructor uses notifications and emails for up-to-date course information. Please ensure the personal technology (device/hardware, flash drives, internet access) used to complete the coursework is charged, connected, and functional. If there are problems occurring in the software, please let the instructor know. If there is trouble with a CSU workstation, device, or internet access, please contact [CSU's Information Systems & Technology](#). If there is trouble with an Urban College computer lab, please

contact Robert (Bob) Martel, the system administrator for the college at r.martel@csuohio.edu

GRADING CRITERIA

The grade for this class is based on the accumulation of points divided by the total number of points possible. No grading curve is applied.

15 Attendance @ 3 pts each = 30 pts (estimate)
13 Weekly Assignments @ 15 points each = 195 points
1 Terminology and Concepts Assessment = 75 points
1 Mapping Project & Presentation = 150 points
450 Total points

The estimated weight of the components of the course are:

7% - Attendance (estimate)
43% - Weekly Assignments
17% - Terminology & Concepts Assessment
33% - Mapping Project & Presentation

These are the course components:

- 1) Class meetings – Attending class meetings is the best way to get the most out of this class. Class meetings are where discussions and activities happen (and sometimes a head start on an assignment).
- 2) Assignments – Assignments include activities, readings, responses to readings, researching key terms, using existing public mapping and GIS platforms, and completing lab-based exercises. Most assignments are posted and collected through BlackBoard.
- 3) Terminology and Concepts Assessment – This is a 25-30 question fill-in-the-blank, open-book assessment demonstrating the understanding of geographic and cartographic terms and concepts.
- 4) Mapping Project – The final project is focused on using maps & data to understand spatial patterns. It is a report with maps and a class presentation of your research.
- 5) *Graduate student credit – Graduate students have an additional assignment to complete for this course in the form of a peer-reviewed research presentation related to GIS.*

Full credit is awarded for:

- Attendance
- On-time submissions
- Accuracy & completeness of work

Points are deducted for:

- Unexcused absences. Please be prepared to provide documentation for an excused absence (such as medical emergencies, legal matters, or death in the family). This includes late arrivals or early departures.
- Late submissions. I accept late assignments. The late submission policy for this class is 5% deduction per day, beginning one minute after the assignment's due date & time. Alternative arrangements are possible in the event of unforeseen circumstances or emergencies. Please contact the professor to discuss your situation.
- Inaccurate response: Credit is deducted for incorrect, incomplete, or irrelevant responses, answers, or outputs. Students may revise & resubmit assignments for additional credit.

You will be able to see your grades and my written feedback about your work in your Blackboard grade center. Please give me about one week from the submission date to complete grading.

Final grades for undergraduate students are assigned based on the following grade scale: 94-100 → A; 90-94 → A-; 87.5-90 → B+; 82.5-87.5 → B; 80-82.5 B-; 77.5-80 → C+; 70-77.5 → C; 60-70 → D; below 60 → F

Final grades for graduate students are assigned based upon the Graduate College grade scale: 92.5 - 100 → A; 90 - 92.5 → A-; 87.5 - 90 → B+; 82.5 - 87.5 → B; 82.5 B-; 60 - 80 → C; below 60 → F.

Incomplete Grade: The "I" grade is given when the work in a course has been generally passing, but when some specifically required task has not been completed through no fault of the student.

An "I" grade can be assigned by the instructor when **all three** of the following conditions are met:

1. Student is regularly attending/participating in the class and has the potential to pass the course;
2. Student has not completed all assignments and has stopped attending/participating for reasons deemed justified by the instructor;
3. The student has notified the instructor prior to the end of the grading period.

ACADEMIC AND PERSONAL SUPPORT SERVICES AT CSU

CSU offers several free academic and personal support services. These services are helpful if students encounter academic and personal challenges.

[CSU Tutoring and Academic Success Center](#) (TASC). TASC offers Free academic support for all undergraduate students at CSU. TASC uses research-based strategies and approaches for learning to help students achieve their academic goals and ultimately to graduate. TASC

does this in an informal, student-centered environment that assists students to not only achieve academically but to also socially integrate into college life.

[The CSU Writing Center](#). Writing is an important skill for all students, teachers and professionals of every kind. As a student at Cleveland State University, you will find that classes in every discipline use writing to help students explore, create and communicate ideas. Student writing can take many forms, from lab reports to research papers, group projects to journal entries.

[CSU Counseling and Academic Success Clinic](#) (CASC). The Counseling & Academic Success Clinic is a free, confidential, supportive counseling and coaching center available to students of Cleveland State University. The clinic provides support and guidance in navigating the typical concerns of today's busy college student. CASC seeks to provide excellent care, guided by identifying the unique strengths of each student, while supporting the development and utilization of positive coping skills to enhance and promote both personal and academic success.

[Lift Up Vikes! Resource Center and Food Pantry](#). Lift Up Vikes! offers a convenient, dignified, and compassionate process through which CSU students are connected to resources that supplement nutrition and other basic human needs as they strive to earn a college degree.

[The CSU Community Assessment Response and Evaluation \(CARE\) Team](#). The goal of the CARE Team is to work collaboratively to support the wellbeing and safety of students, faculty, staff, and to promote a culture on campus that encourages reporting of concerns. Care Management may be useful if:

- You want to know more about support services offered at the university.
- You would like information on how to connect with medical and mental healthcare providers.
- You would like to withdraw from your classes for personal or medical reasons, and want more information on your options.
- You're feeling stressed about school and finding it difficult to cope.
- Your life outside of the classroom has become more difficult to manage.
- You're feeling overwhelmed and want to find help, but you're not sure where to start.

STUDENTS WITH ACADEMIC ACCOMMODATIONS

Educational access is the provision of classroom accommodations, auxiliary aids and services to ensure equal educational opportunities for all students regardless of their disability. Any student who feels he or she may need an accommodation based on the impact of a disability should contact the [Office of Disability Services \(ODS\)](#) at (216)687-2015. The Office is located in MC 147. Accommodations need to be requested *in advance* and will not be granted retroactively. If you have an Accommodation Memo from ODS or would like to discuss another special circumstance, please make an appointment with me to discuss your situation.

STATEMENT FROM THE CSU OFFICE OF INSTITUTIONAL EQUITY

Federal law, including *Title IX*, and University policy require that CSU address discrimination, harassment and sexual violence and enable students affected by these issues to have the same opportunity to succeed as other students. To do this, the [CSU Office for Institutional Equity \(OIE\)](#) provides information, identifies resources (counseling, medical, advocacy, safety planning), issues academic accommodations (excused absences, extended deadlines, late withdrawals, alternative assignments) and other accommodations (No Contact Directives, changing living arrangements). Any student affected by discrimination, harassment and/or sexual violence and seeking assistance, should contact the Office for Institutional Equity by calling 216-687-2223, sending an email to OIE@csuohio.edu or visiting the CSU Administration Center, 2300 Euclid Ave., Room 236.

RIGHTS, RESPONSIBILITIES, AND CONDUCT

The instructor will treat criticisms and questions with the full respect they deserve, apply rules equally, return graded work promptly, and provide a quality course experience. Students' first responsibility is to give the professor, classmates, guests, and communities the same respect students have the right to expect. The instructor expects students to always be respectful of others in our space. The instructor will not tolerate insults toward individuals or groups. It is the instructor's right and responsibility to inform students when there is a violation of the rights of others to a respectful, focused, classroom environment.

Students have the right to be fully informed of course requirements, grading procedures and to receive prompt and helpful feedback on assignments. The instructor is available to provide assistance if needed, discuss feedback, or offer other guidance for personal or professional development.

The [CSU Student Code of Conduct](#) is your guide to acceptable and unacceptable behaviors as a student. Students should be familiar with the policies, procedures, and consequences for infractions of the Code. Of special note are:

Students should not be under the influence of alcohol, narcotics, or illegal substances during class time. This is a health and safety concern, as well as a violation of the Code. Any student suspected of violating this policy will be provided with a warning and may be asked to leave the classroom if disruptive to others. Multiple instances of this violation will result in a report to the University.

This class encourages students to work together; however, submitting another person's assignment or work as your own is considered cheating and will be subject to [CSU's Academic Misconduct Policy](#). Self-plagiarism (using a previously submitted/graded assignment from another class as an assignment for a different class) is also a violation of the Academic Misconduct Policy.

The [GISCI Code of Ethics](#) provides guidelines for GIS (geographic information system) professionals. By heeding this code, GIS professionals will help to preserve and enhance public trust in the discipline.

SCHEDULE

The following schedule shows the plan for topics covered this semester. The schedule may change. If it changes, students are provided reasonable notice of changes and adjustment of due dates if needed. Please check the course Blackboard homepage regularly for announcements, readings, and assignments.

Week One: January 18. Assignments due January 25.

- Welcome and Introductions, Overview of Course

Week Two: January 25. Assignments due February 1.

- Spatial Thinking
- History of Cartography

Week Three: February 1. Assignments due February 8.

- Types of Maps
- Geographic and Cartographic Principles

Week Four: February 8. Assignments due February 15

- Geographic Data Formats
- Internet Mapping Technologies (IMTs)

Week Five: February 15. Assignments due February 22.

- Geographic and Associated Data
- Internet Mapping Technologies (IMTs)

Week Six: February 22. Assignments due February 29

- Public GISs
- The future of geospatial sciences

Week Seven: February 29. Assignments due March 7.

- *Graduate student GIS research presentations*

Week Eight: March 7.

- Concepts & Terminology Assessment

SPRING BREAK: MARCH 11-15

Week Nine: March 21. Assignments due March 28.

- Overview of Mapping Project

Week Ten: March 28. Assignments due April 4.

- Mapping Project Proposal

Week Eleven: April 4. Assignments due April 11.

- Mapping Project Data Needs

Week Twelve: April 11. Assignments due April 18.

- Mapping Project Data Collection

Week Thirteen: April 18. Assignments due April 25.

- Mapping Project Data Analysis

Week Fourteen: April 25. Assignments due May 2.

- Mapping Project Findings

Week Fifteen: May 2.

- Mapping Project Presentations

FINALS WEEK:

- ***No assignments accepted after Thursday, May 9***