

Geography 1103: Spatial Thinking

Lecture: MTWRF 9:00am – 11:15pm @ McEniry 420
Lab: TBA

Instructor: Minrui Zheng

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Office: Center for Applied GIS (CAGIS), McEniry 306

Office Hours: Tuesday and Thursday 2pm – 3:30pm. Or by appointment

Course Overview:

This course is intended to provide students with an overview of spatial thinking fundamentals and introduces geospatial technology as a means for illustrating these concepts. Spatial thinking is a set of cognitive skills aimed at identifying, analyzing, and understanding the location, scale, patterns, and trends of geographic and temporal relationships among data, phenomena and issues. The most critical question spatial thinkers ask is “the why of where”. This course will explore this question in relation to a number of applications within the natural world, and in regard to human-environment interactions.

Students will have hands on experience working with these concepts in a geospatial environment through laboratory exercises. Throughout the semester, the notion and steps of geographic inquiry are reinforced. This spatial expansion upon the scientific method will form the framework to which students will perform a final research project.

Learning Outcomes:

Upon completion of this course, students can be expected to:

- Understand what role spatial thinking plays in the natural world and in respect to human-environment interactions.
- Be competent in the process of “geographic inquiry”.
- Apply critical spatial thinking to issues present in the real world.
- Explain how geospatial technology enables spatial thinking and problem solving.
- Understand the basic foundations of representing spatial phenomena in a geospatial environment.
- Have a basic understanding of how spatial data are collected, displayed, and analyzed, and gain an understanding of their limitations and the inherent uncertainty in empirical analyses.

Canvas

Expect to see PowerPoint slides PDF, assignments, additional readings on Canvas for you to download.

Course Materials:

All readings and material will be posted on Canvas; there is no required textbook to be purchased.

Attendance Policy:

You are expected to attend every class meeting. I take attendance at the beginning of class by quizzing you about the contents of last lecture, so show up on time and be prepared! If you demonstrate in advance (and I agree) that a significant life-event prevents you from attending class or if you have a documented emergency, you can arrange a make-up quiz with me. Therefore, your grade might drop significantly if you keep showing up late, fail to prepare for class, or have many unexcused absences.

Class Behavior:

- (1) Please turn off and put away your cell phone before entering the classroom
- (2) Do not use the computers during lectures to check your facebook account, do homework for other classes, or play games. This is very distracting for me and for your classmates around you. Thank you.
- (3) If you need to exit the classroom please do this directly.

Grading System: Final grades will be determined based on the following types of assessments
Laboratory Exercises – A series of 8 laboratory assignments worth 10 points each will be assigned. Considering the limited in-class time of summer course, students will spend time of their own to finish the rest of the assignments. Late assignments will be penalized as follows:

Late assignments will be penalized as follows:

- Up to 24 hours late: -25%
- 24 – 48 hours late: -50%
- More than 48 hours late: No Longer Accepted, zero credit

Exam: one midterm and one final exam will be given. Plan to attend.

Quizzes: there will be a short quiz at the beginning of approximately every class. These quizzes will be very short and will test on topics covered during the previous class time. They will also serve as a proof of presence, so be on time, don't miss the quiz!

Final Project: Each student will complete a research project and paper on some geographic problem that follows the five steps of geographic inquiry: 1. Ask a geographic question; 2. Acquire geographic resources; 3. Explore geographic data; 4. Analyze geographic information; and 5. Act upon geographic knowledge. Students will be responsible for posing a question with spatial relevance, formulating a hypothesis, collecting data, and analyzing results using the spatial techniques taught throughout the semester. More details on the project will be provided later in the semester. The project will be worth a total of 50 points.

Attendance: Attendance to the lecture and lab are critical to your success in this course. Two 'unexcused' (an excused absence includes a note from a doctor, a religious observation that was I was informed about at the start of the semester) absences will be permitted for the combined labs\lectures. Any unexcused absence beyond three will result in a 10-point deduction from your final total points.

Final score = Midterm Exam (50) + Final Project (50) + 8 labs (10*8) + 7 in-class exercises (5*7) + Quizzes (50) + Attendance (35) = 300

Scale: A: 100-90%, B: 89.5-80%, C: 79.5-70%, D: 69.5-60%, F < 60%

Ethics:

If you are contemplating an ethical failure please read the code of student academic integrity: <http://www.legal.uncc.edu/policies/ps-105.html>, so you can plan for the consequences. Students are encouraged to work on their own, yet helping each other understanding the concepts is fine. In other words, you may work with other students on lab assignments but you may not copy projects or written answers to questions from another student.

Students with disabilities:

UNC Charlotte is committed to access to education. If you have a disability and need academic accommodations, please provide a letter of accommodation from Disability Services early in the semester. For more information on accommodations, contact the Office of Disability Services at disability@uncc.edu, 704-687-0040, or visit their office at Fretwell 230.

Note: The instructor reserves the right to change the policies above if he think it is necessary. It is your responsibility to attend class and keep track of these changes.

Tentative Schedule – Subject to updates, please follow on Canvas.

Week	Date	Lecture	Assignment
1	5/20		
	5/21	Syllabus + Lecture 0	Reading assignment
	5/22	Lecture 1	In-class exercise
	5/23	Lab 1	Lab 1
	5/24	Lecture 2	In-class exercise
2	5/27	Memorial Day (No class)	
	5/28	Lecture 3 + Lab 2	Lab 2
	5/29	Lab 3	Lab 3
	5/30	Lecture 4 + Lecture 5	In-class exercise
	5/31	Lab 4	Lab 4
3	6/3	Lecture 6	In-class exercise
	6/4	Lab 5	Lab 5
	6/5	Lecture 7 + Lab 6	Lab 6
	6/6	Lecture 8	
	6/7	Midterm review	
4	6/10	Midterm	
	6/11	Lecture 9	In-class exercise
	6/12	Lab 7	Lab 7
	6/13	In-class exercise + Lab 8	In-class exercise
	6/14	Lab 8	Lab 8
5	6/17	Q & A	
	6/18	Working on final project	
	6/19		
	6/20		
	6/21		
6	6/24		
	6/26		Final report