GIS3043: Foundations of Geographic Information Systems

Fall 2025 | 4 credits

NOTE: This course complies with all UF academic policies. For information on those policies and for resources for students, please see UF's "Academic Policies and Resources" web page.

I. General Information

Meeting days and times: Synchronously: Tuesdays 9:35 – 11:30 AM

Asynchronously: Online via Canvas

Class location: TUR B109

Name:	Briar Pierce
Email:	briarpierce@ufl.edu
Office Hour Time:	Mondays 12:00 PM – 1:00PM
Office Hour Location:	TUR B109
Office Hour Zoom Link:	https://ufl.zoom.us/j/91409697039
Name:	Jinpeng Wang
Email:	jinpengwang@ufl.edu
Office Hour Time:	Tuesdays 11:30 AM – 12:30 PM
Office Hour Location:	TUR B109
Office Hour Zoom Link:	https://ufl.zoom.us/j/7940987555
Name:	Mohammad Safaei
Email:	safaei.mo@ufl.edu
Office Hour Time:	Fridays 3:00PM – 4:00PM
Office Hour Location:	TUR B109
Office Hour Zoom Link:	Zoom Link

Course Description
Geographic Information Systems (GIS) as the technology for creation, modification, display, and analysis of spatial information. Develops knowledge of GIS, competence in geographic databases, and familiarity with computer software and hardware.

Prerequisites

Prereq: sophomore standing or above.

General Education Designation: none.

Materials will be available through the following means:
All materials for this course will be available on Canvas.
Materials Fee: N/A

II. Course Goals

Course Objectives
In this course we will:

- Grasp the foundational theory of Geographic Information Science (GISc), encompassing Geographic Information Systems (GIS), Remote Sensing (RS), Cartography, Geography, and Global Positioning Systems (GPS).

Student Learning Outcomes
A student who successfully completes this course will be able to:

1. Correctly use technical vocabulary associated with GISc
2. Apply GISc tools to analyze spatial questions and research.
3. Summarize fundamental concepts and principles of Geographic Information Science (GISc).

III. Graded Work

Graded Components
Assignments (50%):
At least one assignment is found in each module. They include technical assessments (GIS labs), software mastery (ESRI trainings), and preparation assignments for guest speakers (discussion boards). All assignments will be submitted via Canvas.

Tests (10%):
There are two tests in the semester. The first is a GIS conceptual exam, which is a survey of all the concepts presented over the entire semester. The second test is a lab practical. In this test, students are expected to use GIS software to show their technical mastery gained over the semester. Both tests are submitted via Canvas, but the GIS Lab Practical will also require the use of GIS software.

Final Project (20%):
The final project for the course is a poster that highlights the fundamentals of GIS theory and technologies as applied to a topic of the student's choice. The project comes in two parts: a proposal, and the poster submission. The proposal is a short paper that explains your research question(s), and outlines a GIS model you intend to apply to answer the question(s). The poster is similar to a scientific poster, which will highlight the research question(s), data source(s), and

methods used to answer the question(s). Both the proposal and poster will be submitted via Canvas.

Module quizzes (20%):
The Module Quizzes are meant to check student understanding of the concepts and content presented in the module (e.g. lectures, recordings, readings, etc.). The quizzes will be a mix of multiple choice, fill-in-the-blank, matching, and short answer questions. All quizzes will be completed via Canvas.

TOTAL: 100%

Late Policy
Meeting due dates and times is crucial to your future success and relationship with collaborators. Please finish and submit deliverables in a timely manner. All assignments submitted after their respective deadlines are subject to a penalty. Late assignments will be evaluated with a lower rate of -10% per day late. Credit cannot be earned for assignments that are turned in 5+ days past the due date or for those that are submitted after the instructor has graded and returned the assignment to the class. Late work will not be accepted after the deadline for the final assignment in the course. If you feel you may have difficulty meeting a deadline, please contact your instructors as soon as possible; note that the instructor may request documentation. Information on UF attendance policies can be found at https://catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

Grading Scale

Letter Grade	Range
A	100% to 94%
A-	< 94% to 90%
B+	< 90% to 87%
B	< 87% to 84%
B-	< 84% to 80%
C+	< 80% to 77%
C	< 77% to 74%
C-	< 74% to 70%
D+	< 70% to 67%
D	< 67% to 64%
D-	< 64% to 61%
F	< 61% to 0%

IV. Calendar

Date	Topic
8/26	What is GIS

9/2	What is spatial data
9/9	Geodesy, projections, and coordinate systems
9/16	GPS, positioning, long/lats
9/23	Remote sensing, aerial photos, satellites
9/30	Image classification & land change science
10/7	Database, attributes, mapping spatial data
10/14	GWR - geographic weighted regression
10/21	raster data analysis
10/28	spatial analysis, interpolation, and modeling
11/4	final project (introduction)
11/11	Holiday – no class
11/18	final project (open work time)
11/25	Holiday – no class
12/2	Exam/lab practical work time
	Finals week

Unless otherwise noted, all assignments are due on Sundays at 11:59pm EST.
This calendar reflects the current schedule. Any changes to the schedule will be communicated via Canvas and/or email from the instructors in advance of those dates.

V. Procedure for Conflict Resolution

Any classroom issues, disagreements or grade disputes should be discussed first between the instructor and the student. If the problem cannot be resolved, please contact Dr. Gabriela Hamerlinck (ghamerlinck@ufl.edu, 352.294.9051). Be prepared to provide documentation of the problem, as well as all graded materials for the semester. Issues that cannot be resolved departmentally will be referred to the University Ombuds Office (http://www.ombuds.ufl.edu; 352-392-1308) or the Dean of Students Office (http://www.dso.ufl.edu; 352-392-1261).

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