

Course Outline

 Edit



GIS3048: Applications Of Geographic Information Systems; SYA 6356 GIS and Social Research

 **Professor Genevieve Reid**

Th 12:45PM - 3:25PM

Room: Green Library 274



- Email: Canvas Inbox
- Phone: 305-348-3052
- Office: SIPA, room 309
- Office Hours:
 - Thursday 10:30 AM-12:30 PM (in SIPA 309)
 - Tuesday from 2:30-4:30 PM (on Zoom)
 - <https://fiu.zoom.us/j/84677328831?pwd=YhMhTGnWedAgxB7eb6iv4nulGrM7Ql.1>
(<https://fiu.zoom.us/j/84677328831?pwd=YhMhTGnWedAgxB7eb6iv4nulGrM7Ql.1>)
 - Meeting ID: 846 7732 8831
 - Passcode: GIS2025
 - or by appointment

Course Time Zone | Eastern Time (ET). Course due dates are according to this time zone.

General Information

Course Description and Purpose

This course will introduce students to the structure, design, science, and applications of geographical information systems (GIS). It will provide an overview of GIS concepts, a hands-on experience with GIS software, and a range of applications in geography and other disciplines. Students will learn how to store, retrieve, manipulate, analyze, and display spatial data derived from various sources.

Course Objectives

Upon completing this course, students will be able to:

- Explore the usefulness of one of the leading GIS programs as a tool for geographers, social scientists, and professionals in a range of fields.
- Understand the world's quickly-growing spatial data infrastructure and how to put it to work for producing location-based information.
- Utilize basic GIS skills to gain a significant advantage in your field and prepare for entry-level career opportunities (i.e., GIS internship, graduate school).
- Identify the relevant spatial characteristics of diverse application areas enabling professionals to integrate spatial thinking and GIS analysis into their careers.

Important Information

Policies

Please review FIU's Policies webpage. The webpage contains essential information regarding guidelines relevant to all FIU courses and additional information about acceptable netiquette for online courses. For additional information, please visit [FIU's Policy and Procedure Library](https://policies.fiu.edu/). [\(https://policies.fiu.edu/\)](https://policies.fiu.edu/)

As a member of the FIU community, you are expected to be knowledgeable about the behavioral expectations set forth in the [FIU Student Conduct and Honor Code](https://dasa.fiu.edu/all-departments/student-conduct-and-academic-integrity/index.html). [\(https://dasa.fiu.edu/all-departments/student-conduct-and-academic-integrity/index.html\)](https://dasa.fiu.edu/all-departments/student-conduct-and-academic-integrity/index.html)

Accessibility and Accommodation

The Disability Resource Center collaborates with students, faculty, staff, and community members to create diverse learning environments that are usable, equitable, inclusive, and sustainable. The DRC provides FIU students with disabilities the necessary support to successfully complete their education

and participate in activities available to all students. If you have a diagnosed disability and plan to utilize academic accommodations, please contact the Center at 305-348-3532 or visit them at the Graham Center GC 190.

For additional assistance, please contact [FIU's Disability Resource Center](http://drc.fiu.edu/)  (<http://drc.fiu.edu/>).

Academic Integrity

Florida International University is a community dedicated to generating and imparting knowledge through excellent teaching and research, the rigorous and respectful exchange of ideas, and community service. All students should respect the right of others to have an equitable opportunity to learn and honestly demonstrate the quality of their learning. Therefore, all students are expected to adhere to a standard of academic conduct that demonstrates respect for themselves, their fellow students, and the University's educational mission. All students are deemed by the University to understand that if they are found responsible for academic misconduct, they will be subject to the Academic Misconduct procedures and sanctions, as outlined in the Student Conduct and Honor Code. Academic Misconduct includes:

Cheating

- The unauthorized use of any materials, information, study aids, or assistance from another person on any academic assignment or exercise unless explicitly authorized by the course Instructor;
- Assisting another student in the unauthorized use of any materials, information, or study aids, unless explicitly authorized by the Instructor; and
- Having a substitute complete any academic assignment or completing an academic assignment for someone else, either paid or unpaid

Plagiarism

- The deliberate use and appropriation of another work without any indication of the source and the representation of such work as the Student's own.
- Assisting another student in the deliberate use and appropriation of another's work without any indication of the source and the representation of such work as the student's own.

Policies on the use of Artificial Intelligence (AI) and plagiarism verification with Turnitin

Since writing, analytical, and critical thinking skills are part of the learning outcomes of this course, all writing assignments should be prepared by the student. Developing strong competencies in writing will prepare you for a competitive workplace. Therefore, **AI-generated submissions are not permitted** and will be treated as plagiarism. Ethical academic behavior is an important expectation in this course and plagiarism is a serious offense.

Turnitin will be used through the Canvas platform to verify originality and plagiarism. The plagiarism checker tool checks against multiple online sources to produce a similarity score. There is

also a new AI-generated content score.

Suppose we see a Turnitin score of 25% or greater for the first time. In that case, your work will receive a very poor evaluation of authenticity and originality and criteria such as the ability to use sources and citations. AI is good at mimicking the style of academic essays but is usually extremely bad at producing substance. You will most probably also receive a bad score on the content and substance criteria.

Typically, together, these criteria can represent as much as 80% of your grade in the rubrics for paper assignments. This means that there is an extremely high chance that you will fail the assignment. The second time you submit an assignment with a Turnitin score greater than 25%, **we will report a concern of academic misconduct to the Office of Student Conduct and Academic Integrity.**

Learn more about the academic integrity policies and procedures as well as student resources that can help you prepare for a successful semester.

Panthers Care & Counseling and Psychological Services (CAPS)

Suppose you are looking for help for yourself or a fellow classmate. In that case, Panthers Care encourages you to express any concerns you may come across as it relates to any personal behavior concerns or worries you have for the classmate's well-being or yours; you are encouraged to share your concerns with [FIU's Panthers Care website](http://pantherscare.fiu.edu/) [↗\(http://pantherscare.fiu.edu/\)](http://pantherscare.fiu.edu/).

[Counseling and Psychological Services \(CAPS\)](http://caps.fiu.edu/) [↗\(http://caps.fiu.edu/\)](http://caps.fiu.edu/) offers free and confidential help for anxiety, depression, stress, and other concerns that life brings. Professional counselors are available for same-day appointments. Don't wait to call (305) 348-2277 to set up a time to talk or visit the online self-help portal.


Nondiscrimination Statement

The **Office of Civil Rights Compliance and Accessibility** (CRCA) is responsible for ensuring that FIU maintains a workplace and learning environment free from discrimination, where current and prospective faculty, staff, and students are treated equitably. If any student, employee, or applicant has a sincere and reasonable belief that they have been discriminated against or harassed based on age, color, disability, marital status, ethnic or national origin, race, religion, retaliation, sex, or any other protected category, they can report their concerns to the CRCA team through report.fiu.edu [↗\(https://report.fiu.edu/\)](https://report.fiu.edu/).

Expectations of this Course

Students are expected to:

- **Be present** in class every week, unless otherwise specified in the schedule;
- **Interact** with instructor and peers during class and in group assignments;
- **Review** and follow the course calendar and weekly outlines;

- **Respond to emails** within **2 days**;
- **Submit** assignments by the corresponding deadline; and
- **Adhere** to the [FIU Student Conduct and Honor Code](https://dasa.fiu.edu/all-departments/student-conduct-and-academic-integrity/)  (<https://dasa.fiu.edu/all-departments/student-conduct-and-academic-integrity/>)

The instructor will:

- Respond to **emails** within **24 hours on weekdays**;
 - Grade assignments within **7 days** of the assignment deadline.
-

Late Submission Policy:

- Assignments submitted **within 24 hours** of the deadline will incur a **10%** penalty.
- Assignments submitted **after 24 hours** will incur a **25%** penalty.

In serious, documented circumstances (such as hospitalization or a family emergency), students should contact the instructor to request an individualized accommodation.



Course Prerequisites

There are no prerequisites for this course.

Access To ArcGIS Online and ArcGIS Pro


There are GIS labs in the FIU library. Another option is to borrow a laptop from the library. You can also access ArcGIS Pro via eLabs. Please see the instructions here:

<https://giscloud.fiu.edu/gis/services/how-to-access-use-elabs-to-access-arcgis-pro/> 
(<https://giscloud.fiu.edu/gis/services/how-to-access-use-elabs-to-access-arcgis-pro/>)

 (<https://giscloud.fiu.edu/gis/services/how-to-access-use-elabs-to-access-arcgis-pro/>) The other option is to install ArcGIS Pro on a PC computer. All students at FIU have access to free ArcGIS Online and ArcGIS Pro licenses. To gain access to ArcGIS online and install ArcGIS Pro, please follow the directions here (under the 'Software Licenses for Students' tab): <https://giscloud.fiu.edu/gis/services/software-licenses/>  (<https://giscloud.fiu.edu/gis/services/software-licenses/>)

 (<https://giscloud.fiu.edu/gis/services/software-licenses/>)

Saving Your GIS Work

- When saving homework and project related data, always save on S: drive — never on C:
- You can also use your FIU OneDrive to store your data and save your work (Please see more information here: [How to Access Your FIU OneDrive](https://fiu.service-now.com/sp?id=kb_article&sys_id=f6c86c77dbd3260019f173921f961981)  (https://fiu.service-now.com/sp?id=kb_article&sys_id=f6c86c77dbd3260019f173921f961981)).

Textbook and Course Materials

There is no textbook required for this course.

Course Detail

Assessments

Group Discussions (during lab sessions on Thursdays of Weeks 2, 12, and 13) and Reflexive Summaries (due the following Sunday)

- Group discussions and reflexive summaries aim to teach students how to work in groups to prepare a final project step by step, applying what they have learned in this course along the way. Group discussions and reflexive summaries are part of the process of preparing and brainstorming as a group for each of your individual projects (including the two assignments and final project described below). Group discussions will provide an opportunity for peer-to-peer feedback on your projects.
- During weeks 2, 12, and 13, students will use part of the lab sessions for group discussions.
- We will decide together how the groups should be formed.
- Detailed instructions will be provided on Canvas for each in-class group discussion.
- Students will be required to produce a one-page, double-spaced reflexive summary of each group discussion (250 words) and upload it to Canvas for evaluation. The reflexive summary describes the major themes of the group discussion and what you gained from the exchange. Detailed instructions for each reflexive summary will be provided on Canvas.
- Individual reflexive summaries are due the following Sunday. Feedback and grades will be transmitted within a week after the submission.
- Student's reflexive summary will be graded on:
 - Quality of writing
 - Engagement with other students' contributions
 - Personal engagement and reflexive statements
 - Showing progress in their project

Quizzes (Weeks 1-8; final outputs due on Sundays following each class)

- Quiz assignments are at the end of chapters 1-8.
- The objective is to apply what you learned in the lectures and lab exercises.

Lab Exercises (Weeks 1-11; final outputs are due on Sundays)

- Lab exercises aim to apply the concepts and tools learned during the lecture.

- Each week (weeks 1-11), students will complete a set of exercises based on the skills required for an entry-level GIS job.
 - Detailed instructions will be provided for each lab session.
 - Students are required to upload a PDF of the final outputs of each week's exercises to Canvas for evaluation.
 - Weekly exercises are due on Sunday. Feedback and grades will be transmitted within a week after the submission.
 - Lab outputs will be graded on:
 - Completing every exercise required
 - Integrating concepts learned during lectures and assigned tutorials
-

Assignments

Final Project Part 1: Research Question and Background

- Each student is expected to work alone on a final GIS project of their choice. The first assignment aims at setting out the research question for the final project. The final project can be in any field of study. Students are required to perform a GIS analysis to answer their question (as opposed to merely visualizing data on a map and drawing conclusions based on their direct observations).
- Students will produce *one double-spaced page* describing their research question and the background of their research.
- The background of research includes the research objectives and a brief review of the related literature (at least three articles to be included as references).
- Students will upload their PDFs to Canvas and receive feedback and grades within one week after submission.
 - **Students will be graded on:**
 - Quality of writing (including at least three references used in the text)
 - Relevance of the research question for GIS methods
 - Clarity of research objectives
 - Quality of literature review (using appropriate scientific references)

Final Project Part 2: Methodology and Data

- Assignment 2 aims at designing a methodology for your final project (How will you answer your research question? What data do you need? What kind of analysis will you do?).
- The methodology includes a description of data sources and data analysis routines that will be used to answer the research question.

- Your methodology should include at least three references.
- Students will produce *one double-spaced page* describing their methodology.
- Students will upload their PDFs to Canvas and receive feedback and grades within one week after submission.
- **Students will be graded on:**
 - Quality of writing (including at least three references used in the text)
 - Appropriate methodology to answer the research question
 - Description of the methodology
 - Description of data

Final Project Part 3: Poster

- The final product will be a scientific research poster.
- This poster will include the following sections: abstract, research question, research objectives, background of the research (with at least three references), methodology (accompanied by three additional references), results (including maps), conclusion, and reference list.
- **Students will be graded on:**
 - Quality of writing (including at least six references used in the text)
 - Research on collecting data and using data
 - Level of GIS skills: building on capacities developed in the lab sessions (i.e., elaborate GIS project, not too easy)
 - Map design
 - Appearance of the poster

◦ Grading

Course Requirements	Number of Items	Points for Each	Total Points Available	Weight
Lab exercises outputs	11	5	55	30%
Group discussions and reflexive summaries	3	10	30	15%
Quizzes	8	10	80	25%

Final project (part 1, 2, and 3)	3	10	30	30%
Total	18	N/A	195	100%

Letter	From	To
A	100%	95%
A-	< 95%	90%
B+	< 90%	87%
B	< 87%	83%
B-	< 83%	80%
C+	< 80%	77%
C	< 77%	70%
D	< 70%	60%
F	< 60%	0%

Letter Grade Distribution Table

o







Course Calendar















Weekly Module	Topic	Assignments
---------------	-------	-------------







1	Introduction to cartography and GIScience	Lab 1 Quiz 1
2	Cartography and geovisualizations	Lab 2 Quiz 2 Discussion and reflexive summary 1
3	Geodatabases	Lab 3 Quiz 3
4	Spatial data	Lab 4 Quiz 4
5	Geoprocessing	Lab 5 Quiz 5
6	Digitizing	Lab 6 Quiz 6
7	Geocoding and collecting data	Lab 7 Quiz 7
8	Applications of GIS skills/Spatial analysis 1	Lab 8 Quiz 8
9	Spatial analysis 2	Lab 9
10	3D GIS	Lab 10
11	Network analysis	Lab 11

12	Asking GIS questions in your field	Discussion and reflexive summary 2 Final project part 1
13	Answering GIS questions with relevant data	Discussion and reflexive summary 3 Final project part 2
14 Thanksgiving Break (no class)		
15 (Individual work on final project: no class)	Communicating/sharing GIS research projects	Final project part 3

Course Summary:

Date	Details	Due
Sun Aug 31, 2025	 Lab 1 https://fiu.instructure.com/courses/250800/assignments/3415233	due by 11:59pm
	 Quiz 1 https://fiu.instructure.com/courses/250800/assignments/3415245	due by 11:59pm
	 Lab 2 https://fiu.instructure.com/courses/250800/assignments/3415236	due by 11:59pm
Sun Sep 7, 2025	 Quiz 2 https://fiu.instructure.com/courses/250800/assignments/3415246	due by 11:59pm
	 Group discussion and reflexive summary 1: Introduce yourself and share your expectations for the course https://fiu.instructure.com/courses/250800/assignments/3479313	due by 11:59pm
Sun Sep 14, 2025	 Lab 3 https://fiu.instructure.com/courses/250800/assignments/3415237	due by 11:59pm

Date	Details	Due
	 Quiz 3 (https://fiu.instructure.com/courses/250800/assignments/3415247)	due by 11:59pm
	 Lab 4 (https://fiu.instructure.com/courses/250800/assignments/3415238)	due by 11:59pm
Sun Sep 21, 2025	 Quiz 4 (https://fiu.instructure.com/courses/250800/assignments/3415248)	due by 11:59pm
	 Lab 5 (https://fiu.instructure.com/courses/250800/assignments/3415239)	due by 11:59pm
Sun Sep 28, 2025	 Quiz 5 (https://fiu.instructure.com/courses/250800/assignments/3415249)	due by 11:59pm
	 Lab 6 (https://fiu.instructure.com/courses/250800/assignments/3415240)	due by 11:59pm
Sun Oct 5, 2025	 Quiz 6 (https://fiu.instructure.com/courses/250800/assignments/3415250)	due by 11:59pm
	 Lab 7 (https://fiu.instructure.com/courses/250800/assignments/3415241)	due by 11:59pm
Sun Oct 12, 2025	 Quiz 7 (https://fiu.instructure.com/courses/250800/assignments/3415251)	due by 11:59pm
	 Lab 8 (https://fiu.instructure.com/courses/250800/assignments/3415242)	due by 11:59pm
Sun Oct 19, 2025	 Quiz 8 (https://fiu.instructure.com/courses/250800/assignments/3415252)	due by 11:59pm
	 Lab 9 (https://fiu.instructure.com/courses/250800/assignments/3415243)	due by 11:59pm
Sun Oct 26, 2025	 Lab 10 (https://fiu.instructure.com/courses/250800/assignments/3415234)	due by 11:59pm
Sun Nov 2, 2025	 Lab 11 (https://fiu.instructure.com/courses/250800/assignments/3415235)	due by 11:59pm

Date	Details	Due
Sun Nov 16, 2025	 <u>Final Project part 1: Your GIS research question</u> https://fiu.instructure.com/courses/250800/assignments/3415230	due by 11:59pm
	 <u>Group discussion and reflexive summary 2: Research question</u> https://fiu.instructure.com/courses/250800/assignments/3479388	due by 11:59pm
Sun Nov 23, 2025	 <u>Final project part 2: Your methodology and data</u> https://fiu.instructure.com/courses/250800/assignments/3415231	due by 11:59pm
	 <u>Group discussion and reflexive summary 3: Methodology and data</u> https://fiu.instructure.com/courses/250800/assignments/3479385	due by 11:59pm
Sun Dec 7, 2025	 <u>Final project: Poster</u> https://fiu.instructure.com/courses/250800/assignments/3415232	due by 11:59pm
	 <u>Lab resources</u> https://fiu.instructure.com/courses/250800/assignments/3415244	