

# Research in GIS

## GIS 5107C

**Office Hours:** Find me on GroupMe and arrange a Zoom Meeting via Canvas Calendars.

### Course Description

The purpose of this course is to introduce Graduate students to the practice and theory of utilizing Geographic Information Systems (GIS) as a method for analysis of the environment. Students will examine the fundamentals of GIS and their applications with an emphasis on the concepts needed to effectively manipulate, query, analyze, and visualize spatial-based data. At the end of the semester, students should feel comfortable applying GIS to a range of environmental issues and have a solid understanding of the procedures and data necessary to conduct a geographical analysis.

### Tracks

As a student, you have two tracks for this course that you should choose at the beginning of the semester.

#### Tack 1 - Introductory Track

This track is for the graduate student who has little or no background in GIS. You will take the course along with the GIS 3043 students (Foundations in GIS) and when you get to the end of the semester project you will apply it to either your graduate work or a research side project you may have.

#### Tack 2 - Advanced Track

This track is for the graduate student who has an in-depth background in GIS and is using GIS in their research. The course will focus all semester on the 'final project' and some auxiliary labs. The goal of the class is to substantially improve the methods section of your dissertation or thesis.

During the first week of the course, you will meet with the instructor to determine what is the best track for you to take.

### COURSE OBJECTIVES

1. To understand the concepts and principles of Geographic Information Science (GISc), including Geographic Information Systems (GIS), Remote Sensing (RS), Cartography, Geography, and Global

Positioning Systems (GPS)

2. To become competent in solving environmental problems with GISc Tools
3. To understand and communicate in the technical language associated with GISc

## **INSTRUCTOR EXPECTATIONS OF STUDENTS**

You are expected to engage with materials on canvas, attend labs (on-campus sections), participate in discussions, and to read the assigned material. The instructor expects students to be curious and interested in the topic and want to engage with the materials. Students not interested in the subject should not take the course. Choose something that engages you. This is your education!

## **CREATIVITY**

GIS is a versatile technique. Its applications are limitless. Students are expected to take this into account when doing coursework. Customizing coursework to fit your own academic goals is not only allowed but encouraged.

## **Prerequisites**

There are no formal prerequisites for this course, however, a basic statistical methods course (e.g. GEO3162C/GEO6160). If there are concerns about readiness for the course please contact the instructor for guidance on which courses to take to prepare.

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## **Course Resources**

This course participates in the Affordable UF Initiative. The high cost of instructional materials can be a burden. This course is working to keep your material costs at less than \$20 per-credit-hour. To accomplish this, there is no required text for this course. All course material will be provided on the eLearning Platform. The software will also be provided through the UF Apps framework as well as in TUR 3006 on campus. At the request of the student to the Instructor, license codes can be provided for the Esri GIS platforms for personal laptop use.



## **Class Meetings**

The online and live sections of the class have the same materials, assignments, and lectures.

*If you are registered for the Live Section*

In general, concepts and theory will be presented in a 1-2 hour lectures. There are also two hours per week of lab time. Practical examples will be discussed and lab exercises will be conducted. Learning GIS is difficult and weekly labs are reserved for in-class work and one-on-one instruction. Please take advantage of this amazing resource.

### *If you are registered for the Online Section*

In general, concepts and theory will be presented through videos online. You are expected to commit four to six hours per week in-lab time during the normal semester and ten-twenty hours a week during accelerated summer. Instructors and TAs will hold virtual office hours as requested to have one-on-one instruction. Please take advantage of the various digital interactions available in the course to get feedback and foster the sense of community with the class.

### **Peer Review**

Many assignments will require peer-review. This is a time to give feedback to your fellow students as well as see what others are turning in. It is fine to be harsh and give feedback, but it is not appropriate to be disparaging, rude, or just plain mean. Give the peer review that you hope that you would get. Constructive feedback so you can make better GIS products.

### **Academic Honesty**

You are all bound by the student academic honor code:

"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity." "On my honor, I have neither given nor received unauthorized aid in doing this assignment."

Despite the course emphasis on code-reuse and collaboration, the final work you hand in for labs and for exams MUST be your own work or clearly cited as not your own. Do not plagiarize code or material. The first time a student is caught cheating they will get a zero in the lab/test. On the second offense, the student will be reported to the appropriate student body.

### **UF Counseling Services**

Resources are available on campus for students having personal problems or lacking clear career and academic goals that interfere with their academic performance. These resources are available on campus for students having personal problems or lacking clear career and academic goals that interfere with their academic performance. These resources include University Counseling Center, 301 Peabody Hall, 392-1575 (personal and career counseling); Student Mental Health, Student Health Care Center, 392-1171 (personal counseling); Center for Sexual Assault /Abuse Recovery and Education (CARE), Student Health Care Center, 392-1161 ext. 4231 (counseling related to sexual assault and abuse); Career Resource Center, Reitz Union, 392-1601 (career development assistance and counseling).

### **Software Use**

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate.

### **Americans With Disabilities Act**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Student Services before bringing your request to the instructor.














### **Grade Breakdowns**

100	A
99	A
98	A
97	A
96	A
95	A
94	A
93	A
92	A
91	A
90	A
89	B+
88	B+
87	B+
86	B+
85	B+
84	B
83	B
82	B
81	B
80	B
79	C+
78	C+
77	C+
76	C+
75	C+
74	C
73	C
72	C
71	C






70	C
69	D+
68	D+
67	D+
66	D+
65	D+
64	D
63	D
62	D
61	D
60	D
59	E
58	E
57	E
56	E
55	E
54	E
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11	E
10	E
9	E
8	E
7	E
6	E
5	E
4	E
3	E
2	E
1	E
0	E

# Course Summary:

Date	Details	
Sun Jan 12, 2020	 <b>First Week Student-Instructor Meeting</b> ( <a href="https://ufl.instructure.com/courses/392193/assignments/4117702">https://ufl.instructure.com/courses/392193/assignments/4117702</a> )	due by 11:59pm
Mon Jan 13, 2020	 <b>Martin Luther King Jr. Day</b> ( <a href="https://ufl.instructure.com/calendar?event_id=1313057&amp;include_contexts=course_392193">https://ufl.instructure.com/calendar?event_id=1313057&amp;include_contexts=course_392193</a> )	12am
Sun Jan 19, 2020	 <b>Project Pitch</b> ( <a href="https://ufl.instructure.com/courses/392193/assignments/4117701">https://ufl.instructure.com/courses/392193/assignments/4117701</a> )	due by 11:59pm
Sun Jan 26, 2020	 <b>Simple Site Map</b> ( <a href="https://ufl.instructure.com/courses/392193/assignments/4111514">https://ufl.instructure.com/courses/392193/assignments/4111514</a> )	due by 11:59pm
Sun Feb 2, 2020	 <b>Inspiration Reflection</b> ( <a href="https://ufl.instructure.com/courses/392193/assignments/4117709">https://ufl.instructure.com/courses/392193/assignments/4117709</a> )	due by 11:59pm
Sun Feb 9, 2020	 <b>Lit Review Exercises</b> ( <a href="https://ufl.instructure.com/courses/392193/assignments/4117704">https://ufl.instructure.com/courses/392193/assignments/4117704</a> )	due by 11:59pm
Sun Feb 23, 2020	 <b>Project Plan</b> ( <a href="https://ufl.instructure.com/courses/392193/assignments/4117707">https://ufl.instructure.com/courses/392193/assignments/4117707</a> )	due by 11:59pm
Mon Mar 2, 2020	 <b>SPRING BREAK!</b> ( <a href="https://ufl.instructure.com/calendar?event_id=1313059&amp;include_contexts=course_392193">https://ufl.instructure.com/calendar?event_id=1313059&amp;include_contexts=course_392193</a> )	12am
Tue Mar 3, 2020	 <b>SPRING BREAK!</b> ( <a href="https://ufl.instructure.com/calendar?event_id=1313062&amp;include_contexts=course_392193">https://ufl.instructure.com/calendar?event_id=1313062&amp;include_contexts=course_392193</a> )	12am
Wed Mar 4, 2020	 <b>SPRING BREAK!</b> ( <a href="https://ufl.instructure.com/calendar?event_id=1313063&amp;include_contexts=course_392193">https://ufl.instructure.com/calendar?event_id=1313063&amp;include_contexts=course_392193</a> )	12am
Thu Mar 5, 2020	 <b>SPRING BREAK!</b> ( <a href="https://ufl.instructure.com/calendar?event_id=1313064&amp;include_contexts=course_392193">https://ufl.instructure.com/calendar?event_id=1313064&amp;include_contexts=course_392193</a> )	12am
Fri Mar 6, 2020	 <b>SPRING BREAK!</b> ( <a href="https://ufl.instructure.com/calendar?event_id=1313066&amp;include_contexts=course_392193">https://ufl.instructure.com/calendar?event_id=1313066&amp;include_contexts=course_392193</a> )	12am
Sun Mar 8, 2020	 <b>Status Report 1</b> ( <a href="https://ufl.instructure.com/courses/392193/assignments/4117755">https://ufl.instructure.com/courses/392193/assignments/4117755</a> )	due by 11:59pm
Sun Mar 22, 2020	 <b>Status Report 2</b> ( <a href="https://ufl.instructure.com/courses/392193/assignments/4117756">https://ufl.instructure.com/courses/392193/assignments/4117756</a> )	due by 11:59pm



Date	Details	
Sun Apr 5, 2020	 <b>Status Report 3</b> <a href="https://ufl.instructure.com/courses/392193/assignments/4117757">https://ufl.instructure.com/courses/392193/assignments/4117757</a>	due by 11:59pm
Sun Apr 19, 2020	 <b>Final Presentation</b> <a href="https://ufl.instructure.com/courses/392193/assignments/4117708">https://ufl.instructure.com/courses/392193/assignments/4117708</a>	due by 11:59pm
Sun Apr 26, 2020	 <b>Final Write Up</b> <a href="https://ufl.instructure.com/courses/392193/assignments/4117710">https://ufl.instructure.com/courses/392193/assignments/4117710</a>	due by 11:59pm
Sun May 3, 2020	 <b>Peer Review Reflection</b> <a href="https://ufl.instructure.com/courses/392193/assignments/4117746">https://ufl.instructure.com/courses/392193/assignments/4117746</a>	due by 11:59pm
Mon May 4, 2020	 <b>Grades Submitted at noon</b> ( <a href="https://ufl.instructure.com/calendar?event_id=1313091&amp;include_contexts=course_392193">https://ufl.instructure.com/calendar?event_id=1313091&amp;include_contexts=course_392193</a> )	12am