

Course Syllabus

Foundations of GIS

Contact

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Course Description

The purpose of this course is to introduce 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.

COURSE OBJECTIVES

1. To understand the concepts and principles of geographic information science, 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 technical language associated with GISc

INSTRUCTOR EXPECTATIONS OF STUDENTS

You are expected to attend classes and labs, participate in discussions, and to read the assigned material. The instructor expects that each of the assigned readings will be completed before the lecture for the week.

CREATIVITY

GIS is a versatile technique. Its application to environmental studies is 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).

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. Software will also be provided through the UF Apps framework as well as in TUR 3006 on campus. At request of the student to the Instructor, licence codes can be provided for ESRI GIS platform 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 is also a two hours per week in-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.

If you are registered for the Online Section

In general, concepts and theory will be presented through videos online. You are expected to commit two to four hours per week in-lab time (during the normal semester) and 10-20 hours a week during accelerated summer. Instructor and TAs will hold virtual office hours as requested to have one-on-one instruction.

Grading

Grades are assigned with the standard University breakdown. All labs/projects will be graded on a scale of 10. Grades will be averaged based on their category this breakdown for final grade:

Group	Weight
Assignments	45%
Lecture Quizzes	20%
Exams	10%
Presentation	5%

Group	Weight
Final Project	20%
Total	100%

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.

Course Summary:

Date	Details	due by
Tue May 15, 2018	 Lab Setup https://ufl.instructure.com/courses/351727/assignments/3528178	due by 11:59pm
	 Questionnaire https://ufl.instructure.com/courses/351727/assignments/3528155	due by 11:59pm
Wed May 16, 2018	 Where is the Southwest? https://ufl.instructure.com/courses/351727/assignments/3528186	due by 2:45pm
Thu May 17, 2018	 A Simple Map - ArcGIS https://ufl.instructure.com/courses/351727/assignments/3528165	due by 11:59pm
Fri May 18, 2018	 What is GIS Quiz https://ufl.instructure.com/courses/351727/assignments/3528808	due by 11:59pm
Sun May 20, 2018	 ESRI: Getting Started with GIS https://ufl.instructure.com/courses/351727/assignments/3528168	due by 11:59pm
Tue May 22, 2018	 Data and File Structures in ArcGIS https://ufl.instructure.com/courses/351727/assignments/3528160	due by 11:59pm
Wed May 23, 2018	 Spatial Data Quiz https://ufl.instructure.com/courses/351727/assignments/3528806	due by 11:55pm
Thu May 24, 2018	 Mapping Disaster Trends https://ufl.instructure.com/courses/351727/assignments/3528180	due by 11:59pm
	 How big is the Earth? https://ufl.instructure.com/courses/351727/assignments/3528175	due by 11:59pm
Fri May 25, 2018	 Top 10 List https://ufl.instructure.com/courses/351727/assignments/3528184	due by 11:59pm
Sat May 26, 2018	 Extensions Quiz https://ufl.instructure.com/courses/351727/assignments/3528157	due by 11:59pm
Tue May 29, 2018	 Alaska vs Texas - Does Projection Matter when measure size of state? https://ufl.instructure.com/courses/351727/assignments/3528163	due by 11:59pm
	 Coordinate Systems and Map Projections https://ufl.instructure.com/courses/351727/assignments/3528798	due by 11:59pm

Date	Details	due by 11:59pm
Wed May 30, 2018	 Blue Marble Quiz (https://ufl.instructure.com/courses/351727/assignments/3528153)	due by 11:59pm
	 ESRI: Map Design Fundamentals (https://ufl.instructure.com/courses/351727/assignments/3528169)	due by 11:59pm
	 ESRI: Referencing Data to Real-World Locations Using ArcGIS (https://ufl.instructure.com/courses/351727/assignments/3533189)	due by 11:59pm
Thu May 31, 2018	 ESRI: Basics of Map Projections (https://ufl.instructure.com/courses/351727/assignments/3528167)	due by 11:59pm
	 Projections Lecture Quiz (https://ufl.instructure.com/courses/351727/assignments/3528795)	due by 11:59pm
Fri Jun 1, 2018	 GPS Long Lats of the SEC (https://ufl.instructure.com/courses/351727/assignments/3528173)	due by 11:59pm
Mon Jun 4, 2018	 GPS Lecture Quiz (https://ufl.instructure.com/courses/351727/assignments/3528807)	due by 11:59pm
	 Remote Sensing Lecture Quiz (https://ufl.instructure.com/courses/351727/assignments/3528802)	due by 11:59pm
Tue Jun 5, 2018	 NDVI (https://ufl.instructure.com/courses/351727/assignments/3528181)	due by 11:59pm
Wed Jun 6, 2018	 ArcGIS Pro: Make a Map of Turlington Plaza (https://ufl.instructure.com/courses/351727/assignments/3528164)	due by 11:59pm
Thu Jun 7, 2018	 Georeferencing (https://ufl.instructure.com/courses/351727/assignments/3528172)	due by 11:59pm
Fri Jun 8, 2018	 Georeferencing Lecture Quiz (https://ufl.instructure.com/courses/351727/assignments/3528804)	due by 11:59pm
Mon Jun 11, 2018	 Acronyms Quiz (https://ufl.instructure.com/courses/351727/assignments/3528152)	due by 11:59pm
	 Georeferencing and Digitizing UF campus image (https://ufl.instructure.com/courses/351727/assignments/3528811)	due by 11:59pm
	 Making a Campus Map (https://ufl.instructure.com/courses/351727/assignments/3533754)	due by 11:59pm

Date	Details	
Tue Jun 12, 2018	 ArcGIS File, Geodatabase, and Database Operations https://ufl.instructure.com/courses/351727/assignments/3528797	due by 11:59pm
	 Image Classification https://ufl.instructure.com/courses/351727/assignments/3528176	due by 11:59pm
	 Viewing Land Use Change https://ufl.instructure.com/courses/351727/assignments/3528185	due by 11:59pm
Wed Jun 13, 2018	 Crime Scene Investigation https://ufl.instructure.com/courses/351727/assignments/3528813	due by 11:59pm
	 ESRI: Getting Started with the Geodatabase https://ufl.instructure.com/courses/351727/assignments/3534698	due by 11:59pm
Thu Jun 14, 2018	 GWR https://ufl.instructure.com/courses/351727/assignments/3528174	due by 11:59pm
	 Census Choropleth Map https://ufl.instructure.com/courses/351727/assignments/3528166	due by 11:59pm
Fri Jun 15, 2018	 Final Project Proposal https://ufl.instructure.com/courses/351727/assignments/3528171	due by 11:59pm
	 ESRI: Building Models for GIS Analysis Using ArcGIS https://ufl.instructure.com/courses/351727/assignments/3534697	due by 11:59pm
	 Race Dot Map https://ufl.instructure.com/courses/351727/assignments/3528183	due by 11:59pm
Mon Jun 18, 2018	 LCS - Von Thünen model https://ufl.instructure.com/courses/351727/assignments/3528179	due by 11:59pm
	 Map Algebra Quiz https://ufl.instructure.com/courses/351727/assignments/3528796	due by 11:59pm
Tue Jun 19, 2018	 Creating Maps Using Census Data https://ufl.instructure.com/courses/351727/assignments/3528817	due by 11:59pm
	 Terrain Analysis Quiz https://ufl.instructure.com/courses/351727/assignments/3528801	due by 11:59pm
Wed Jun 20, 2018	 Ecological Niche Modeling https://ufl.instructure.com/courses/351727/assignments/3529470	due by 11:59pm
	 Vector Analysis https://ufl.instructure.com/courses/351727/assignments/3528814	due by 11:59pm

Date	Details	
Thu Jun 21, 2018	 Exam 1 (https://ufl.instructure.com/courses/351727/assignments/3528156)	due by 11:59pm
	 Campsite Selection (https://ufl.instructure.com/courses/351727/assignments/3528800)	due by 11:59pm
Fri Jun 22, 2018	 John Snow Map - Spatial Analysis (https://ufl.instructure.com/courses/351727/assignments/3528177)	due by 11:59pm
	 Spatial Analysis, Interpolation, Modeling Quiz (https://ufl.instructure.com/courses/351727/assignments/3528812)	due by 11:59pm
Sat Jun 23, 2018	 Exam 2 (https://ufl.instructure.com/courses/351727/assignments/3528159)	due by 11:59pm
	 Final Project Poster (https://ufl.instructure.com/courses/351727/assignments/3528170)	due by 11:59pm
	 Presentation (https://ufl.instructure.com/courses/351727/assignments/3528182)	due by 11:59pm
	 Database, Attributes, & Mapping Spatial Data Lecture Quiz (https://ufl.instructure.com/courses/351727/assignments/3528820)	