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:

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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	
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	
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	Georefrencing 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)	