URP 6270: Introduction to Planning Information Systems

Note: This syllabus is subject to change. Any changes will be communicated in advance.

COURSE DESCRIPTION

Introduction to Planning Information Systems is intended to introduce students to the concepts, principles, and the reality of using Geographic Information Systems (GIS). It also teaches the essential skills of operating a functional GIS mainly using ArcGIS Pro. This powerful technology provides planners with a very effective tool for capture, analysis, and display of spatial data that is crucial to the planning process. The course is theoretical and practical (i.e., very hands-on), addressing both the structure of geographic information systems and the use of this tool within planning for spatial analysis and data management.

COURSE INFORMATION

INSTRUCTOR: Sofia Thordin, MURP, AICP, Adjunct Lecturer, Dept. of Urban & Regional Planning

COURSE COMMUNICATIONS: All communication with course faculty will take place within Canvas, through the Inbox. All emails will be sent and received within Canvas. You should NOT be emailing the course instructor outside of the system. The instructor is also available for a Zoom meeting by appointment. Please contact the instructor through the Inbox to arrange a meeting.

CLASS NUMBER (SECTION): URP6270-0746(18579) | URP6270-2645(18599)

CREDIT HOURS: 3 CREDIT HOURS

OFFICE HOURS: By appointment (*Zoom link here | Password: mappyhour*)

COURSE TA/COORDINATOR: TBD

COURSE WEBSITE: All materials are posted on the Canvas e-Learning University of Florida. The course may be accessed at http:/elearning.ufl.edu/

INSTRUCTIONAL METHODS

The concepts and techniques will be covered in lectures (pre-recorded videos and PDFs), demo videos, hands-on exercises, and homework assignments. Students will practice the concepts learned in the materials through exercises, homework assignments, quizzes, and a final project. Students will learn the concepts of spatial thinking and problem solving through course materials, and then apply and practice those concepts through exercises/homework and the final project, which utilize ArcGIS Pro software techniques.

MATERIALS

REQUIRED TEXT: *No* required text. However, for students that wish more detailed information or are having trouble with concepts for this course the following resources are recommended:

- GIS Tutorial 1 for ArcGIS Pro (published by Esri)
- Getting to Know ArcGIS Pro (published by Esri)
- Assigned readings from open source book: *Essentials of Geographic Information Systems* (available online)

PREREQUISITE KNOWLEDGE AND SKILLS: None (knowledge of basic computer skills, Windows Operating Systems, Excel, etc. is useful, but not required.)

SOFTWARE: This course will be using **ArcGIS Pro 3×**. We advise that you download and run ArcGIS Pro on your personal computer. Alternatively, you can choose to run ArcGIS Pro via UFApps, however, performance has been noted to be very slow.

1. Acquiring Desktop software license for ArcGIS Pro: Students can acquire the latest version of ArcGIS software and a student license from the GeoPlan Center. Please note it may take up to 24 hours to receive your software license. It is recommended that students install ArcGIS software prior to beginning the class: https://www.geoplan.ufl.edu/software/software.shtml#student
2. Accessing ArcGIS Pro via UFApps: The ArcGIS Pro is available on UFApps (http://info.apps.ufl.edu/). UFApps provides access to software applications from any computing device--laptops, tablets, desktops, and smartphones--from any location, at any time. In order to access UFApps and ArcGIS you will need to install Citrix Receiver which is available from the UFApps website.
3. For students who use Mac you will need to use an alternate method of accessing ArcGIS Pro. If you plan to take more GIS courses in the future or continue using the software, consider whether installing Windows software to your Mac using Boot Camp (free) is a good option. See these articles for more information: Esri Blog: Pro on Mac or Run ArcGIS on Mac. If you choose not to run Boot Camp, another option is UFApps.

COURSE LEARNING OBJECTIVES

Upon successful completion of the course, students will be able to:

1. Explain geographic information systems and basic models of digital geographic representation
2. Explain the concept of coordinate systems and map projections and how they affect data representation
3. Apply appropriate spatial functions to match stated problems or objectives
4. Develop methodologies to address geographic problems and evaluate results
5. Utilize cartographic principles to communicate geographic data and analyses through map creation

EXPECTATIONS, EVALUATION AND GRADING

ATTENDANCE POLICY.

While face-to-face attendance is not required, students need to make use of the various tools in Canvas to develop a learning community. The discussion board is an area where students can communicate with the instructor and classmates regarding a variety of topics.

Students are responsible for satisfying all academic objectives as defined by the instructor. Absences count from the first class meeting. In general, acceptable reasons for absence from or failure to participate in class include illness, serious family emergencies, special curricular requirements (e.g., judging trips, field trips, and professional conferences), military obligation, severe weather conditions, religious holidays, and participation in official university activities such as music performances, athletic competition or debate. Absences from class for court-imposed legal obligations (e.g., jury duty or subpoena) must be excused. Other reasons also may be approved.

Students shall be permitted a reasonable amount of time to make up the material or activities covered in their absence.

Students cannot participate in classes unless they are registered officially or approved to audit with evidence of having paid audit fees. The Office of the University Registrar provides official class rolls to instructors.

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx

QUIZ & EXAM POLICIES

Quizzes and Exams will be given to test student knowledge on course material.

HOMEWORK ASSIGNMENT POLICY

Homework assignments, discussions, and exercises are due on the following **Sunday (by 11:59pm)** of each new module week. For example, Module 1 assignments are due the Sunday evening that Module 2 starts. Please refer to the course schedule in Canvas.

MAKE-UP POLICY

Students shall be permitted a reasonable amount of time to make up the material or activities covered in their absence, if the absence is due to the one of accepted reasons listed in the Attendance Policy.

If you are unable to turn in an assignment on time, please contact me before the due date to discuss your options. A grade reduction of 5% per day will occur unless there is an acceptable excuse for the late submission.

Computer problems that arise during submission will not be accepted as an excuse for late work. In the event that you have technical difficulties with e-Learning, please contact the UF Help Desk. If technical difficulties cause you to miss a due date, you MUST report the problem to Help Desk. Include the ticket number and an explanation of the issue based on consultation with Help Desk in an e-mail to the instructor to explain the late assignment/exam. The course faculty reserves the right to accept or decline tickets from the UF Help Desk based on individual circumstances.

GRADING POLICY

Grades are determined only by points earned on exams and other assignments given during the semester. There is no opportunity other than what is explicitly stated in this syllabus to earn points, that is, no special assignments nor additional work beyond that given to other students.

1. Homework Assignments: 35%
2. Exercises & Discussions: 25%
3. Quizzes: 10%
4. Final Project: 15%
5. Final Examination: 15%

Final grades will be calculated as follows:

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
93 or above	90-92	88-89	83-87	80-82	78-79	73 - 77	70-72	68-69	58-67	55-57	55 or below

For greater detail, see the Grades section of the Graduate Catalog for the University of Florida (Links to an external site.). It also contains the policies and procedures, course descriptions, colleges, departments, and program information for UF.

UF POLICIES:

SPECIAL ACCOMMODATIONS

Students requesting disability-related academic accommodations must first register with the Disability Resource Center (Links to an external site.).

The Disability Resource Center will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation.

UNIVERSITY POLICIES

University policies on such matters as add/drop, incomplete, academic probation, termination of enrollment, reinstatement, and other expectations or procedures can be found in the graduate student handbook (Links to an external site.) and at the Dean of Students website (Links to an external site.).

UNIVERSITY POLICY ON ACADEMIC MISCONDUCT

Academic honesty and integrity are fundamental values of the University community. Students should be sure that they understand the UF Student Honor Code (Links to an external site.).

STUDENT HONOR CODE

In adopting this Honor Code, the students of the University of Florida recognize that academic honesty and integrity are fundamental values of the University community. Students who enroll at the University commit to holding themselves and their peers to the high standard of honor required by the Honor Code. Any individual who becomes aware of a violation of the Honor Code is bound by honor to take corrective action. Student and faculty support are crucial to the success of the Honor Code. The quality of a University of Florida education is dependent upon the community acceptance and enforcement of the Honor Code.

> *The Honor Pledge:*
> *We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity by abiding by the Honor Code.*

On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "*On my honor, I have neither given nor received unauthorized aid in doing this assignment.*"

NETIQUETTE: COMMUNICATION COURTESY

All members of the class are expected to follow rules of common courtesy in all messages, threaded discussions and chats. Course communication should be civilized and respectful to everyone. The means of communication provided to you through e-Learning (e-mail, discussion posts, course questions, and chats) are at your full disposal to use in a respectful manner. Abuse of this system and its tools through disruptive conduct, harassment, or overall disruption of course activity will not be tolerated. Conduct that is deemed to be in violation with University rules and regulations or the Code of Student Conduct will result in a report to the Dean of Students.

Refer to the following link for more information: https://teach.ufl.edu/wp-content/uploads/2020/04/NetiquetteGuideforOnlineCourses.docx

COURSE EVALUATION

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

STUDENT SUPPORT SERVICES

As a student in a distance learning course or program, you have access to the same student support services that on campus students have. For course content questions contact your instructor.

For any technical issues you encounter with your course please contact the UF computing Help Desk at 342-392-HELP (4357). For Help Desk hours visit: http://helpdesk.ufl.edu (Links to an external site.). For a list of additional student support services links and information please visit: http://www.distance.ufl.edu/student-services (Links to an external site.).

WEEKLY SCHEDULE

Weeks	Date	Module#, Topic, and Learning Objectives	Assignments	
			Assigned (Sunday)	Due (Sunday)
Week 1	8/22	**Module 1. Introducing Planning Information System** Intro to GIS concepts and components History of GIS Application in Urban and Regional Planning Commonly used GIS software	8/22 (Wednes-day, due to term start date)	9/1
Week 2	9/1	**Module 2. ArcGIS Pro Data and Map Basics** Navigate ArcGIS Pro Manage GIS Data for ArcGIS Pro (download/store/import) Making maps basics Two models of GIS: vector and raster	9/1	9/8
Week 3	9/8	**Module 3. Making and sharing maps** Map types and basic elements of maps Symbology settings Create and export a map layout	9/8	9/15

		Introduction to ArcGIS Online and story map		
Week 4	9/15	**Module 4. Exploring geospatial relationships** Understand tabular/attribute data in a spatial dataset Work with **tabular** data Connect Spatial datasets (**Join and Relate**)	9/15	9/22
Week 5	9/22	**Module 5. Making Selections** Selection tools Select by attributes Select by location	9/22	9/29
Week 6	9/29	**Module 6. Map Projections** Coordinate system, projections, and datum Add spatial reference Define tool vs. Project tool	9/29	10/6
Week 7	10/6	**Module 7. Geoprocessing I** Workflow of geoprocessing Dissolve | Clip | Merge | Append	10/6	10/13
Week 8	10/13	**Module 7. Geoprocessing II** Intersect | Union | Buffer	10/13	10/20
Week 9	10/20	**Module 8. Creating and Editing Spatial Data, and Geocoding** Create and edit geographic features and attributes Create new shapefile or feature class Geocoding descriptive address to create spatial data	10/20	10/27
Week 10	10/27	**Module 9. Introduction to Raster Data and Analysis** Raster GIS Basics) / Environment settings for Raster analysis Mapping density (heat map) Surface analysis: Contour, Slope	10/27	11/3

Week 11	11/3	**Module 10. Determining Suitability (Part I)** Introduction to terrain and digital elevation data Understanding suitability analysis Calculating Cell, Neighborhood, and Zonal Statistics	**11/3**	**11/10**
Week 12	11/10	**Module 10. Determining Suitability (Part II)** Converting Data (vector to raster) Reclassifying Data Using Raster Calculator Suitability analysis process	11/10	11/17
Week 13-14	11/17	**Module 11. Final Project** Identify the steps required to plan, implement, and carry through to completion a successful GIS analysis project Produce a professional project output including proper symbology, analysis, map elements, and written components	11/17	12/1
Week 15	12/1	**Exam (tentatively 12/6 -12/8)**	~12/6	~12/8

Disclaimer: *This syllabus represents our current plans and objectives. As we go through the semester, those plans may need to change to enhance the class learning opportunity. Such changes, communicated clearly, are not unusual and should be expected.*