

# Survey of Planning Information Systems

URP4273 (Section: 20702)

*Academic Term:* Fall 2020

## ***Instructor:***

Seungbeom Kang, Assistant Professor (Department of Urban and Regional Planning)

Room: 450 Architecture Building

Email: s.kang1@ufl.edu, Office: 352-294-1490

Office Hours: **Wednesday 2:00-5:00 PM via Zoom** or by appointment

***Class Periods:*** Monday Period 4-5 (10:40AM-12:35PM), Wednesday Period 5 (11:45AM-12:35PM), Online 100% (via Zoom)

***Zoom Meeting Information:*** All lectures will be administrated via Zoom. You must login in to Zoom via <https://ufl.zoom.us/>. Once you successfully long in your UFL Zoom account, then you can join the class session using the following link with the passcode:

URL: <https://ufl.zoom.us/j/97509919847?pwd=eWFuZDh4emVjNUVIT0pQQllwUnVpdz09>

Zoom Meeting ID: 975 0991 9847

Passcode: 4273GIS

***Teaching Assistants:*** No TA for this course

## ***Course Description***

This course introduces the foundational concepts and components of a geographic information system (GIS). This course will teach the essential skills of operating a functional GIS through the use of ArcGIS software package. By completing this course, students will understand basic concepts and skills for data management, editing, and analysis in the ArcGIS Desktop program.

## ***Course Pre-Requisites / Co-Requisites***

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

## ***Course Objectives***

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

- Explain the fundamental concepts and theoretical basis of GIS
- Identify ways to find data for their GIS tasks and to assess data quality and fitness.
- Utilize essential functions of the ArcGIS Desktop software
- Explain the concept of coordinate systems and projects and ways to minimize mapping distortions
- Create and edit geographic features and attributes within GIS data
- Manage and organize GIS files in different formats efficiently
- Present GIS data and map products in professional formats
- Analyze the two models for representing spatial data: vector and raster data
- Identify and access various sources for GIS data and explore ArcGIS extensions
- Use skills to design and conduct GIS projects to solve spatial problems

## ***Materials and Supply Fees***

The instructor posts all materials on the Canvas E-Learning University of Florida (<http://elearning.ufl.edu/>).

## ***Required Textbooks and Software***

- **Getting to Know ArcGIS Desktop fifth edition, ESRI Press, 2018** (by Michael Law and Amy Collins)
  - ISBN-13: 978-1589485105
  - ISBN-10: 1589485106

- **Renting the textbook is highly recommended.** This textbook is an elementary-level book with an emphasis on well-designed exercises. If students want to equip in-depth theoretical knowledge about GIS after completing the course, the instructor will provide a list of recommended books.
- **ArcGIS Desktop**
  - This course will be using ArcGIS Desktop 10.7 (or its earlier versions). I advise that you **download and run ArcGIS Desktop on your personal computer.** Alternatively, you can choose to run ArcGIS via UFApps; however, performance has been noted to be slow. If you are MAC users, I recommend you either **to use ArcGIS based on Windows 10 via Parallels Desktop (not free) or Boot Camp** or to access ArcGIS via UFApps.
  - Acquiring Desktop software license for ArcGIS (Recommended)
    - <https://www.geoplan.ufl.edu/software/arcgis-DESKTOP/>
    - Note: Carefully read the detailed instructions on the web page. Students can acquire the latest version of ArcGIS software and a student license from the GeoPlan Center. It may take up to 24 hours to receive your software license. It is strongly recommended that students install ArcGIS software prior to the second week of the semester.
  - Accessing ArcGIS via UFApps (Optional)
    - The ArcGIS software is also 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.
    - To access UFApps and ArcGIS, you will need to install the Citrix Receiver which is available from the UFApps website.
    - Open your browser and navigate to <http://info.apps.ufl.edu/>.
    - Scroll down to the First Time Use Questions section and
    - Click on Access UFApps from a PC if you are using a PC,
    - Click on Access UFApps from a Mac if using a Mac.
    - The instructions will guide you through installing Citrix Receiver and logging in to UFApps.
  - Computer Requirements
    - Students need to check the system requirements to make sure that your computer has the hardware and software required.
    - Click the link below to see ESRI's ArcGIS Desktop 10.7 system requirements: <http://desktop.arcgis.com/en/system-requirements/latest/arcgis-desktop-system-requirements.htm>
- Lecture slides developed by the instructor will be posted on the Canvas.

### ***Recommended Materials***

- ArcGIS 9, Getting Started with ArcGIS, ESRI Press, 2004
- ArcGIS 9, Using ArcGIS Spatial Analyst, ESRI Press, 2004
- Mastering ArcGIS seventh edition (by Maribeth Price), McGraw Hill Education, 2016
- Modeling Our World: The ESRI Guide to Geodatabase Design, ESRI Press, 1999 (by Michael Zeiler)
- All books above are available in .PDF format for download on the course website.

### ***Course Website and Communications***

Students communicate via Canvas email within e-Learning (Emails that are received outside the e-Learning system may not receive a prompt reply).

### ***Attendance Policy, Class Expectations, and Make-Up Policy***

Students are expected to attend all classes. Important announcements will be made during lecture sections, and guidelines for assignments will be provided. Absence of one class incurs an approximate deduction of 0.5 points of your final grade (of 100 points). **A student's grade will drop one letter grade after the three unexcused absences, and a student with five unexcused absences can be dropped from the course and given an "E."** There will be no make-up opportunity if you miss homework or exams. If you miss class, it will be your responsibility to find out about the discussions and activities you missed. Excused absences must be consistent with university

policies in the Graduate Catalog (<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance>) and require appropriate documentation. Additional information can be found here: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

**Evaluation of Grades**

Item	Grade Percentage	Remarks
Attendance and Participation	5% of final grade	
Exercise	30% of final grade	2% per exercise
Assignment	30% of final grade	3% per assignment
Midterm Exam	20% of final grade	Sum of lab and lecture tests scores
Final Project	15% of final grade	

**Final Project (Team-Based Assignment)**

This project is intended for students to identify a spatial problem need and to suggest a solution via analytical tools in the ArcGIS Desktop software. You will be asked to conduct this project as a team. Each team will consist of two or three students (it can be changed). Students will need to identify the data related to their topics (or create their data) and need to demonstrate what your issues are and how those issues can be addressed based on your analysis. Each team’s message should be clear enough to understand the problem and to feel compelled to agree with what the report emphasizes. More details about this assignment will be provided in class. This report will be due on **December 13<sup>th</sup>, 2020**.

Here are a few words about working in teams for students. In the professional world, planners work in groups, so students need to learn how to be a successful team member. As in the real world, teams are evaluated based on the overall quality of the entire team’s work; the same will be valid for the team-based final project in this course. The exception is when one student in your group does not participate at all. In this case, notify the instructor ASAP.

Also, keep in mind that there will be **one peer evaluation at the end of this semester**. Keep in mind that **your final grade can be lowered by the result of the peer evaluation**.

To receive full credit, please follow these general directions:

- (1) Smart writing throughout that clearly explains the scope of the issue in sufficient detail (not an Instagram post!)
- (2) Quality images that clearly represent your maps.
- (3) Work within your teams to decide equitable work assignments.
- (4) Please do not submit your work without the approval of your team members. This is a collaborative effort. Establish a way to communicate as a team for your team assignments and make sure everyone takes responsibility for its content.
- (5) Strive for intelligence to keep your grade high. Please pay special attention to formality and depth in your works to get full credit. Short or glib answers are not appropriate and will not count. Please refrain from using “web-speak” or texting language of any kind.

**Grading Policy**

Final grades will be calculated as follows:

Percent	Grade	Percent	Grade
94.0 – 100.0	A	74.0 – 76.9	C
90.0 – 93.9	A-	70.0 – 73.9	C-
87.0 – 89.9	B+	67.0 – 69.9	D+
84.0 – 86.9	B	64.0 – 66.9	D
80.0 – 83.9	B-	60.0 – 63.9	D-
77.0 – 79.9	C+	59.9 or below	E

Grades are determined only by points earned from the items presented in the *Evaluation of Grades* given during the semester. There is no opportunity other than those that are explicitly stated in the syllabus to earn points. Thus, there is no special assignments nor make-ups.

**Course Schedule (Subject to change)**

Week	Date	Topic & Reading	Exercise Due	Assignment Due
1	8/31 (Mon)	<i>Course Introduction</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 1. Introducing GIS</li> </ul>		
	9/2 (Wed)	<i>Part 1. Introducing GIS and ArcGIS</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 2. Introducing ArcGIS</li> </ul>		AS-0 and AS-1 Due
2	9/7 (Mon)	<b>No Class</b>		
	9/9 (Wed)	<i>Part 2. Getting started with maps and data</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 3. Interacting with maps</li> </ul>		
3	9/14 (Mon)	<i>Part 2. Getting started with maps and data</i> Law & Collins, Chapter 4. Interacting with data		
	9/16 (Wed)	<i>Part 2. Getting started with maps and data</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 4. Interacting with data</li> </ul>	Exercise 3a-d Exercise 4a-c	
4	9/21 (Mon)	<i>Part 3. Displaying and presenting data</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 6. Working with coordinate systems and projections</li> </ul>	In-class exercise	AS-2 Due
	9/23 (Wed)	<i>Part 3. Displaying and presenting data</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 6. Working with coordinate systems and projections</li> </ul>		
5	9/28 (Mon)	<i>Part 3. Displaying and presenting data</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 7, 8, 9. Symbolizing features, classifying features, labeling features</li> </ul>	Exercise 6a-d	AS-3 Due
	9/30 (Wed)	<i>Part 3. Displaying and presenting data</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 7, 8, 9, 10. Symbolizing features, classifying features, labeling features, and making maps for presentation</li> </ul>		
6	10/5 (Mon)	<i>Part 5. Getting information about features</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 15, 16. Querying data / Selecting features by location</li> </ul>		
	10/7 (Wed)	<i>Part 5. Getting information about features</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 17. Joining and relating data</li> </ul>	Exercise 7a-d Exercise 8a-c Exercise 9a-d	AS-4 Due
7	10/12 (Mon)	<i>Part 5. Getting information about features</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 17. Joining and relating data</li> </ul>		
	10/14 (Wed)	<i>Part 4. Creating and editing data</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 11, 12. Building a geodatabase</li> </ul>	Exercise 15b Exercise 16a-b	AS-5 Due
8	10/19 (Mon)	<i>Part 4. Creating and editing data</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 12, 13. Creating features / Editing features</li> </ul>		
	10/21 (Wed)	<i>Part 4. Creating and editing data</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 14. Geocoding addresses</li> </ul>	Exercise 17a-c	AS-6 Due
9	10/26 (Mon)	<i>Part 4. Creating and editing data</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 11, 12. Building a geodatabase</li> </ul>		
	10/28 (Wed)	<i>Part 6. Analyzing geospatial data</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 18. Preparing data for analysis</li> </ul>	Exercise 12a-b Exercise 13a	AS-7 Due
10	11/2 (Mon)	<b>Mid-term Written and Lab Exam</b>		
	11/4 (Wed)	<i>Part 6. Analyzing geospatial data</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 19. Geoprocessing vector data</li> </ul>		<b>Lab Exam Due (11/6)</b>
11	11/9 (Mon)	<i>Part 6. Analyzing geospatial data</i>		

Week	Date	Topic & Reading	Exercise Due	Assignment Due
		<ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 20. Using spatial analyst</li> </ul>		
	11/11 (Wed)	<b>No Class</b>	Exercise 18a-d Exercise 19a-d	AS-8 Due
12	11/16 (Mon)	<i>Part 7. Raster analysis</i> <ul style="list-style-type: none"> <li>Chapter 4 and 5 in <i>Using Spatial Analysis</i></li> </ul>		
	11/18 (Wed)	<i>Part 7. Raster analysis</i> <i>Part 8. Recent trends and online GIS</i> <ul style="list-style-type: none"> <li>Law &amp; Collins, Chapter 5. Exploring online resources</li> </ul>		AS-9 Due
13	11/23 (Mon)	<i>Final review &amp; Tips for final project</i>		
	11/25 (Wed)	<b>No Class - Thanksgiving Break</b>		
14	11/30 (Mon)	<i>Part 9. Final project works</i>		
	12/2 (Wed)	<i>Part 9. Final project works</i>		
15	12/7 (Mon)	<i>Final presentations</i>		
	12/9 (Wed)	<i>Final presentations</i>		
16	12/13 (Wed)	<b>Final Project Due</b>		

### **Communication Courtesy**

All members of the class are expected to follow rules of common courtesy in all email messages. 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. Conducting such behavior will be deemed to be in violation of University rules and regulations or the Code of Student Conduct will result in a report to the Dean of Students.

### **Students Requiring Accommodations**

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, <https://www.dso.ufl.edu/drc>) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting an accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

### **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/>

### **University Honesty Policy**

UF students are bound by The Honor Pledge which states,

*"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor 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."*

The Honor Code (<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor in this class.

### ***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. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

### ***Recorded Course Materials***

Our class sessions may be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

### ***Student Privacy***

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see:

<http://registrar.ufl.edu/catalog0910/policies/regulationferpa.html>

### ***Campus Resources:***

#### ***Health and Wellness***

#### **U Matter, We Care:**

If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or 352 392-1575 so that a team member can reach out to the student.

**Counseling and Wellness Center:** <http://www.counseling.ufl.edu/cwc>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

#### **Sexual Assault Recovery Services (SARS)**

Student Health Care Center, 392-1161.

**University Police Department** at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

Academic Resources

**E-learning technical support**, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.  
<https://lss.at.ufl.edu/help.shtml>.

**Career Resource Center**, Reitz Union, 392-1601. Career assistance and counseling. <https://www.crc.ufl.edu/>.

**Library Support**, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

**Teaching Center**, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.  
<https://teachingcenter.ufl.edu/>.

**Writing Studio, 302 Tigert Hall**, 846-1138. Help brainstorming, formatting, and writing papers.  
<https://writing.ufl.edu/writing-studio/>.

**Student Complaints Campus**: [https://www.dso.ufl.edu/documents/UF\\_Complaints\\_policy.pdf](https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf).

**On-Line Students Complaints**: <http://www.distance.ufl.edu/student-complaint-process>.