

University of Louisville
Department of Urban and Public Affairs
Urban Demography and GIS
SUST 518 / PLAN 618 / PADM 621
Spring 2023 Syllabus

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Class Meeting: Tuesday 5:30-8:15 UPA 123
Office Hours: Email for appointment

Course Description:

This course will introduce students to geographic information systems (GIS) as an analytical tool with which to study urban demographic issues. The material will be geared towards students in the urban planning, public administration, and sustainability programs, with a focus on demographic data frequently encountered by planners, policymakers, and policy analysts.

Course Objectives:

This course is designed to increase your awareness of contemporary themes in urban demography – specifically in the context of the United States – and to become familiar with the use of GIS and spatial data. Upon completion of this course you will be able to:

- Identify sources of spatial demographic and housing data
- Integrate data, including spatial data and tabular data, from multiple sources
- Generate thematic maps of relevant demographic variables
- Carry out basic/intermediate geoprocessing functions in ArcGIS
- Geocode and georeference data

The course will follow a lecture/lab format, with the first part of each class session encompassing a brief lecture and demonstration, and the second part of each class session spent doing lab exercises. Labs are a pedagogical tool to improve your GIS ability and technical skills.

Textbook:

There is no textbook required for the course. However, if you would like a resource for reference and/or additional practice I would suggest Law, M. and A. Collins. 2021. *Getting to Know ArcGIS Pro 4th Edition*. ISBN: 9781589487017. This book is available online.

Software:

We will make extensive use of the ESRI ArcGIS Pro software. Student copies of the software will be provided to you. *This software cannot be installed on Apple laptops unless you are running Parallels or a similar utility. You must bring a laptop to all class sessions, as we'll use them to carry out the lab exercises.* The ArcGIS software is also installed on all the computers in the UPA computer lab.

Office Hours:

Please email me if you are having any general or specific problems with the course or materials.

Assignments and Grading:

15% - Labs/Class Participation

50% - Homework Assignments (5)

35% - Final Paper and Presentation (*no presentation for SUST 518 students*)

Homework assignments should be submitted via Blackboard by the beginning of class on the days noted in the schedule. Depending on the assignment, you may also be asked to submit the dataset that was used or other auxiliary material. Late homework assignments will not be accepted.

Each student will complete a research paper that serves as the final exam for the course. The paper should be approximately 2,500-3,000 words, not including maps, tables, or references, and should follow the standard IMRAD format. You are required to include at least three maps to illustrate the research problem and results. You are free to choose a topic of interest to you, but it must include a human population component and a GIS component. Please feel free to meet with me to talk about possible paper topics.

You are required to submit, by March 28th, a brief proposal of your paper topic. This does not have to be substantial (a paragraph or two) but should highlight the research question that you wish to address, the data source(s) that you plan to use, and your proposed methodology.

Grades will be assigned according to the following scale:

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F
100-93	92-90	89-87	86-83	82-80	79-77	76-73	72-70	69-67	66-63	62-60	59-0

In general, letter grades in the **A** range indicate exceptional or above average work, letter grades in the **B** range indicate good or average performance, letter grades in the **C** range indicate work that is generally insufficient or below average, and letter grades of **D** or **F** suggest serious issues that need to be immediately addressed.

Presentations (PLAN 618 / PADM 621 ONLY):

During the last class session, each **graduate** student will give a short (approximately 7-8 minute) presentation of her/his final paper. These presentations should focus on the analytical/cartographical portion of your research – if you want to discuss the background or literature review section of your paper it should be *very limited*. Each presentation will be evaluated by the other students in the class for clarity, complexity, and demonstration of the skills learned during the course.

Attendance Policy:

If you miss a lecture, you are responsible for obtaining any relevant lecture materials. Also note that lab participation is part of your course grade and missing a lab will result in a reduced participation grade.

Laptops and Cell Phones:

The use of technology resources during class should be limited to necessary and appropriate functions. Please be respectful of others and of me and refrain from texting, chatting, etc. during lecture.

Email:

You are responsible for checking your university email account regularly. All official course communication (e.g., schedule changes, etc.) will be handled via email.

Collaboration Policy:

Collaboration is often advantageous in studying technical topics and working in groups on lab or homework assignments is encouraged. However, every student must submit her/his own assignment and they should not be identical. There should be no collaboration on final papers or presentations.

UNIVERSITY POLICIES

Academic Integrity:

Students should be familiar with their rights and responsibilities, as outlined in the University of Louisville Graduate Catalog at <https://louisville.edu/graduatecatalog/toc>. Particular attention should be paid to the section entitled “Code of Student Conduct”. Plagiarism and other policies relating to academic dishonesty will be strictly enforced in this course.

Academic Grievance Procedure:

If a student believes that she/he is being treated unfairly, the academic grievance procedure is outlined in the University of Louisville Graduate Catalog at <https://louisville.edu/graduatecatalog/toc>.

Accommodation for Students with Disabilities:

The University of Louisville is committed to providing access to programs and services for qualified students with disabilities. If you are a student with a disability and require accommodation to participate and complete requirements for this class, notify me immediately and contact the Disability Resource Center (119 Stevenson Hall or (502) 852-6938) for verification of eligibility and determination of specific accommodations.

Statement on Diversity:

The University of Louisville strives to foster and sustain an environment of inclusiveness that empowers us all to achieve our highest potential without fear of prejudice or bias. We commit ourselves to building an exemplary educational community that offers a nurturing and challenging intellectual climate, a respect for the spectrum of human diversity, and a genuine understanding of the many differences—including race, ethnicity, gender, gender identity and expression, sexual orientation, age, socioeconomic status, disability, religion, national origin or military status—that enrich a vibrant metropolitan research university. We expect every member of our academic family to embrace the underlying values of this vision and to demonstrate a strong commitment to attracting, retaining, and supporting students, faculty and staff who reflect the diversity of our larger society. For more information, visit the [Office of Diversity and Equity](#).

Title IX/Clery Act Notification:

Sexual misconduct (including sexual harassment, sexual assault, and any other nonconsensual behavior of a sexual nature) and sex discrimination violate University policies. Students experiencing such behavior may obtain **confidential** support from the PEACC Program (852-2663), Counseling Center (852-6585), and Campus Health Services (852-6479). To report sexual misconduct or sex discrimination, contact the Dean of Students (852-5787) or University of Louisville Police (852-6111).

Disclosure to **University faculty or instructors** of sexual misconduct, domestic violence, dating violence, or sex discrimination occurring on campus, in a University-sponsored program, or involving a campus visitor or University student or employee (whether current or former) is **not confidential** under Title IX. Faculty and instructors must forward such reports, including names and circumstances, to the University’s Title IX officer.

For more information, see the Sexual Misconduct Resource Guide (<http://louisville.edu/hr/employeerelations/sexual-misconduct-brochure>).

BASIC NEEDS SUPPORT

Doing well in classes (and in life) means getting a good night's sleep, having enough to eat, and being able to get to where you need to go. If you are having any difficulties with these necessities, remember that UofL has resources to assist you. These challenges are unfortunately more common than we would wish. Please reach out to me or to one of these great resources if you find yourself in need at any time during this course or after.

- Food (fresh and non-perishable), household and toiletry items: Cardinal Cupboard (SAC W312)
- Clothing, shoes, household items and office/art supplies: UofL Free Store (SAC W303C)
- If you're experiencing any academic, financial, or personal difficulties, a Student Success Coordinator in UofL's Student Success Center can work with you individually to provide guidance and support as well as connect you to relevant resources.
- The UofL Concern Center can help you find and connect with relevant resources:
<https://louisville.concerncenter.com/>.

Counseling Center:

If you notice you are having a difficult time or generally feel stuck, it may be helpful to work with a trained therapist at the Counseling Center in an individual or group setting. People come into the Counseling Center to discuss a range of topics, including relationships, family, identities, grief and loss, depression, stress, and many more experiences and concerns. The Counseling Center provides short term individual, group, and couples counseling, crisis intervention, and psychological testing. Clients seek services for a variety of areas of concern, including psychological, personal/social, academic, and career issues. To schedule an appointment, please contact the Counseling Center at 502-852-6585 or stop by the office in the Student Activities Center Room W-204. More info: <https://louisville.edu/counseling/>

Additional Counseling Resources:

- 24/7 Adult Crisis Line: 502-589-4313 or 800-221-0446 (available 24/7)
- The National Suicide Prevention Lifeline: 988 or 1-800-273-TALK (8255) (available 24/7)
- Crisis Text Line: Text HOME to 741741 (available 24/7)
- The Trevor Project: 1-866-488-7386 (available 24/7 for individuals ages 13-24 who identify as LGBTQ)

Course Schedule:

Every effort will be made to adhere to this schedule, but I reserve the right to modify as deemed necessary. You will be notified in a timely manner of any changes.

Week	Date	Topic	Assignment Due
1	1/10	GIS components; introduction to ArcGIS Pro	
2	1/17	Working with coordinate systems and projections; georeferencing	
3	1/24	Thematic mapping; symbolizing features	Homework 1
4	1/31	Thematic mapping; classifying features	
5	2/7	Querying data by attribute and location	Homework 2
6	2/14	Map design; labeling features; making maps for presentation	
7	2/21	Map design; legends; other map annotations	
8	2/28	Census geography; spatial data sources	Homework 3
9	3/7	Joining data; data integration	
10	3/14	SPRING BREAK (NO CLASS)	
11	3/21	Creating and editing features	Homework 4
12	3/28	Geoprocessing functions for vector data	Final Paper Proposal
13	4/4	Geocoding address data; creating address locators	Homework 5
14	4/11	Raster data; using Spatial Analyst	
15	4/18	<u>Graduate Student Final Presentations</u>	
Friday	4/28	FINAL PAPER DUE BY 8:00 PM	