GEOG 365-01: Urban GIS Fall 2024

Meets: TR 1:20–2:50 p.m., Car 109

Instructor: Laura Smith (she/her)
Office: Carnegie 104b
Open Office Hours: Mon 1:00-2:30 p.m.; Tues 10:00-11:00 a.m.; Thurs 10:30-11:30 a.m.
Or at any other time you propose (in-person or virtual)
Email: SMITHL@macalester.edu

Lab Instructor: Ashley Nepp (she/her)
Office: Carnegie 110

Drop-in Hours: I'm available anytime my office door is open! Use my google calendar booking page or email me if you would like to arrange a specific appointment or meeting time.
Email: ANEPP@macalester.edu

I. COURSE DESCRIPTION AND OBJECTIVES

Many neighborhood and community groups, local units of government, and research organizations implement Geographic Information Systems (GIS) in a wide range of tasks related to research, planning, and management in urban areas. In this class, you will have the opportunity to participate in a "real world" application of your knowledge and skills in GIS technology in a collaborative urban geographic research project.

The content of the course will include development of the research project, beginning with generation of research questions in consultation with our community partner; acquisition and utilization of data employed in urban analysis (including manual data collection and database creation); data manipulation and analytical techniques unique to urban GIS; and spatial data visualization. The course requires you to be able to clearly present data and information to our partner through a variety of methods, such as maps, figures, and both written and oral presentation.

Throughout the semester, you will gain an understanding of some of the social and political issues that emerge in urban GIS; help to inform public policy discussion and implementation; experience collaborative research; and use your technical skills to benefit a community partner. You will also learn how to work as a team to plan, prepare, and carry out a project for a partner – on a deadline!

For this semester, our partner will be the East Phillips Neighborhood Institute (EPNI) in Minneapolis: https://www.epnifarm.org/. EPNI formed around the community's fight to convert a contested industrial warehouse into a cooperatively-owned community hub with an indoor farm and housing. EPNI has won this opportunity after a decade of organizing and resistance; it is an exciting time for us to partner with them and support their work!

There are **two broad objectives** for this course. The first is **to extend student knowledge and technical abilities in GIS**. We will do this through demos that address the concepts and principles of GIS analysis and through structured lab exercises that stress technical skill development. The second and parallel objective is **to work cooperatively with our partner to generate and answer research questions**; to develop sustainable GIS databases; to provide recommendations about data and methodology; **and to produce digital products that will support the ongoing work of EPNI**.

We will spend the first few weeks of the semester acquiring background knowledge of EPNI and the East Phillips neighborhood (especially the Roof Depot warehouse site) through readings, discussion, a presentation by EPNI staff, and a site visit. We will spend time communicating with our partner representatives and drafting research plans. Upon completion of the planning process, we will spend the rest of the term engaged in the project – acquiring and analyzing relevant data, and producing maps and other visualizations to answer our research questions. The last weeks will be spent on production of our digital products and other deliverables. We will meet with our partner representatives at mid-semester to update them on our progress and receive feedback, and at the end of the semester for a formal presentation of our findings. Keep in mind that our work and final products will be distributed publicly and utilized widely!

II. MATERIALS

There are no required texts for this course. Any assigned readings or links will be posted to our Moodle site, where you will also find other course information/announcements.

III. COURSE EXPECTATIONS & ASSESSMENT

Attendance/Engagement – This course is *very* much a self-directed and cooperative course. You are expected to be able to use your knowledge and skills in GIS technology to achieve the goals of the project. It will be up to each of you to maintain a high level of commitment to the project. If one student fails to meet their responsibilities, the entire project suffers. In addition, the majority of our class time will be devoted to group collaboration and work on the project, so it is in your best interest to be present! However, we also recognize that there will be times when you are not able to or do not feel comfortable attending class. If possible, please send an email before the class period letting us know. If religious observances create conflicts, please reach out early in the semester so we can plan ahead.

Assessment – You will be graded on the fulfillment of your responsibilities in the course and your contribution to the final project. You are expected to participate in all facets of the project, from acquiring information to analyzing data to communicating your findings. Formative feedback throughout the semester will often be delivered orally rather than via specific scores. In general, coursework falls into the following categories:

- **Lab Assignments** – You will complete three lab exercises to enhance your skills and to support your work on the project.
- **Project Check-in Assignments –** As an interactive, project-based course there will be assignments over the course of the semester that relate specifically to intermediate steps in our project (i.e., group research plan, project status updates, section overview). You will have sufficient notice and description of these assignments.
- **Final StoryMap** – For your contribution to the final digital product, you will be graded on the quality of your analysis and the overall content of your section, as well as quality of presentation. You will also be expected to contribute to the comprehensive final digital product through an additional role, such as creating a design template, writing an introduction, compiling an appendix, etc.
- **Journals/Reflection Essay** – For this course you are required to submit three journal entries and a final essay reflecting on your experiences in the class in general and our collaborative project specifically. The content of the journal entries and essay will not be graded. It is our hope that you

will thoughtfully and honestly consider the progress of the group project and your individual learning as well as the course overall, and use these short writing assignments as a tool for exploring the challenges and rewards of group projects and collaborative partnerships.

Assignment weights:

Lab assignments (3 total)	= 95 pts.	(18%)
Group research plan	= 30 pts.	(6%)
Project status updates (2 @ 10 pts. each)	= 20 pts.	(4%)
Section overview	= 30 pts.	(6%)
Final StoryMap section	= 180 pts.	(34%)
Additional StoryMap role	= 60 pts.	(11%)
Journal (3 entries @ 5 pts. each)	= 15 pts.	(3%)
Reflection essay	= 20 pts.	(4%)
Attendance/Engagement	= 50 pts.	(9%)
Final checkout meeting/backup completed	= 25 pts.	(5%)
TOTAL	= 525 pts.	

Data/File Management: It is expected and required that you will regularly back up your work. Staying organized and maintaining your data is important to the integrity of this project. Additionally, privacy agreements are extremely important for some of the datasets we may use.

Extensions/Incompletes – There are no incompletes given for the course because we have a deadline for presentation and delivery of our work! Thus, external project deadlines are *not* flexible. Lab assignments contribute directly to your project work; late assignments negatively impact your ability to contribute to the group project. Lab assignment extensions will be considered on an individual and situational basis, penalties will only be assessed if the late assignment negatively impacts your ability to contribute to your group work.

Academic Accommodations – We recognize that course design may pose barriers to a student's ability to access or demonstrate mastery of course content. We honor academic accommodations as outlined via the Center for Disability Resources and in discussion regarding what is reasonable for this course. Students with long- or short-term disabilities should schedule an appointment through Disability Resources (https://www.macalester.edu/disability-resources/).

Academic Honesty – Academic honesty and integrity are expected at all times. All sources used in preparing your work must be cited; *this includes data sources on your maps*. If you have questions about Macalester's academic integrity policy, please refer to the *Student Handbook* (https://www.macalester.edu/student-affairs/).

IV. RESOURCES & SUPPORT

Health and Well-Being – Here at Macalester, you are encouraged to make your well-being a priority throughout this semester and your career here. Investing time into taking care of yourself will help you engage more fully in your academic experience. Remember that beyond being a student, you are a human being carrying your own experiences, thoughts, emotions, and identities with you. It is important to acknowledge any stressors you may be facing, which can be mental, emotional, physical, financial, etc., and how they can have an academic impact. If you are having difficulties maintaining your well-being, please reach out to one of the resources here: https://www.macalester.edu/current-students/.

Please follow Macalester's guidance for respiratory illnesses (https://www.macalester.edu/covid-19/).

Title IX – Macalester is committed to providing a safe and open learning and living environment for all students, staff, and faculty. Any community member experiencing sexual harassment, sexual violence, relationship violence, or stalking, is encouraged to seek help and support.

Please be aware that as faculty members, it is our responsibility to report disclosure about sexual harassment, sexual misconduct, relationship violence, and stalking to the Title IX Office. The purpose of this report is to ensure that anyone experiencing harm receives the resources and support they need. We will keep this information *private* and it will not be shared beyond this required report.

You may also contact Macalester's Title IX Coordinator directly (phone: 651-696-6258; e-mail: titleixcordinator@macalester.edu); she will provide you with supportive measures, resources, and referrals. Additional information about how to file a report (including anonymously) is available on the Title IX website.

V. LAB POLICIES

Some of our class time will be used to demonstrate cartographic and GIS applications. You will be expected to complete the lab assignments on your own time outside of class. The open lab schedule will be posted on the Moodle page. Please do not leave your lab work until the last minute – the lab may not be available and systems do crash. You have card access to the lab. Please do not abuse these privileges.

Card access hours are: Monday-Sunday: 7 am - 11 pm

Lab Expectations – While working in the computer lab, please abide by the following:

- Do not eat food in the lab; beverages must be in containers with a lid and placed away from computers.
- Work on the C: drive and save all files to your personal workspace (C:/geog365/username); always back up your work!
- Print only color maps on the printer. No written assignments (these can be printed in the library). Please do not ask the Lab Assistants to print anything other than maps on the lab printer.
- Obtain permission from Ashley before downloading programs to the computers.
- This is a shared workspace designated for GIS students and classes; please be a courteous and respectful member of this community. There are many students who need time in this lab so please keep your use of unrelated websites and programs to a minimum. Please use headphones when playing videos and music. Lastly, please be courteous and respectful to our Lab Assistant student employees. If you have an issue with one of our lab assistants, please talk to Ashley Nepp directly.

VI. GENERAL SCHEDULE: Subject to revision! All readings available on Moodle.

Week	Date	Topic	Readings	Deliverables
1	T, Sept 3	Introduction to course		
	Th, Sept 5	GIS Lab administration; ***Lab 1: Part I*** *Joins, Geodatabase & Projections Lab Assigned* Discussion: EPNI context	EPNI website	
2	T, Sept 10	Discussion: Community Geography and the Urban GIS course Research plan assignment	Robinson et al. (2017); past Urban GIS StoryMaps	
	Th, Sept 12	**Site Visit:** Land Walk with partners at Roof Depot site ****Early departure at 1:00 p.m.****	TBD	
3	T, Sept 17	**Meeting with partners** (on campus) ***Lab 1: Part II*** *Effective Communication & Design Lab Assigned*	TBD	**Lab 1 Part I:** Joins/Geodatabase
	Th, Sept 19	Project planning; Work time on research plans		
4	T, Sept 24	Research plan discussion and feedback		Research plan
	Th, Sept 26	Peer review of Lab 1 Part II maps; ***Lab 2****: Data source & Visualization Lab Assigned*		**Lab 1 Part II**: Effective Communication & Design
5	T, Oct 1	Work time	Avre (2013)	Journal entry #1
	Th, Oct 3	Data source presentations		**Lab 2:** Data Source & Visualization

Week	Date	Topic	Readings	Deliverables
6	T, Oct 8	Data source presentations		
	Th, Oct 10	Work time		Status update #1
7	T, Oct 15	Prepare progress report		Progress report slides
	Th, Oct 17	*Fall Break*		
8	T, Oct 22	**Progress Report to partners** (on campus)		
	Th, Oct 24	Progress report discussion; Work on status updates		Journal entry #2
9	T, Oct 29	Section overview assignment; ***Lab 3**: ESRI Training Assigned*		Status update #2
	Th, Oct 31	Work time		
10	T, Nov 5	ESRI Training discussion; Work time		**Lab 3**: ESRI Training
	Th, Nov 7	Section overview presentations		Section overview part 1
11	T, Nov 12	Map presentations; Peer feedback; Style guide decisions		Section overview part 2
	Th, Nov 14	Storyboard final product; Assign additional StoryMap roles		

Week	Date	Topic	Readings	Deliverables
12	T, Nov 19	Prepare final presentation (visuals)		**StoryMap group sections**
	Th, Nov 21	Preview final presentation (visuals)		Final presentation visuals
13	T, Nov 26	Practice final presentation (oral); Peer feedback		Presentation visual revisions
	Th, Nov 28	*Thanksgiving Break*		
14	T, Dec 3	**Final Presentation** Time and Location TBD		
	Th, Dec 5	Final presentation discussion; Complete Story Map and additional roles; Project backup and data organization		Journal entry #3
15	T, Dec 10	Present final StoryMap in class; Group assessments; End-of-course surveys		**Final StoryMap**
		(Final Exam period)		Reflection essay Final checkout meeting/backup completed

VII. READING LIST

Avre, Zachary. 2013. Lifeblood of Our City: Reflections on Community Partnerships and Minneapolis Riverfront Vitality. *Undergraduate Journal of Service Learning and Community-Based Research.* http://berks.psu.edu/volume-2-fall-2013-research-partnerships

Macalester College Urban GIS course. Spring 2024. Saint Paul Public Libraries: Hayden Heights. https://storymaps.arcgis.com/collections/631b63b56df243a4a63a16fed0422a10

Macalester College Urban GIS course. 2019. Saint Paul 3K. https://storymaps.arcgis.com/stories/0350ab8ab7824256a4bfd3eef012eb74

Macalester College Urban GIS course. 2018. Saint Paul 3K. https://arcg.is/09TKqj

Robinson, Jonell A., Daniel Block, and Amanda Rees. 2017. Community Geography: Addressing Barriers in Public Participation GIS. *The Cartographic Journal* 54(1): 5-13.

Additional Resources (available on-line or on Moodle)

Community Geography/GIS

Craig, William J., and Sarah A. Elwood. 1998. How and Why Community Groups Use Maps and Geographic Information. *Cartography and Geographic Information Systems* 25(2): 95-104.

Klein, Joseph. 2016. Working in "The Zone": Reflections on Community Partnerships in North Minneapolis. *Undergraduate Journal of Service Learning and Community-Based Research.* https://berks.psu.edu/volume-5-fall-2016-reflective-essays

Larrimore, Skyler. 2012. Community Partnerships to Examine Local Housing Markets: A Reflection. *Undergraduate Journal of Service Learning and Community-Based Research.* http://berks.psu.edu/volume-1-fall-2012-research-and-reflection

Leitner, Helga, Sarah Elwood, Eric Sheppard, Susanna McMaster, and Robert McMaster. 2000. Modes of GIS Provision and their Appropriateness for Neighborhood Organizations: Examples from Minneapolis and St. Paul, Minnesota. *URISA Journal* 12(4): 43-56.

Norwood, Carla and Gabriel Cumming. 2012. Making Maps That Matter: Situating GIS within Community Conversations about Changing Landscapes. *Cartographica* 47(1): 2-17.

Smith, Laura J. 2008. Indigenous Geography, GIS, and Land Use Planning on the Bois Forte Reservation. *American Indian Culture and Research Journal* 32(3):139-151.

Data and Methodology

Data Driven Detroit. http://datadrivendetroit.org/

Kingsley, G. Thomas, Claudia J. Colton, and Kathryn L.S. Pettit, eds. 2014. *Strengthening Communities with Neighborhood Data*. Washington, D.C.: The Urban Institute. http://www.urban.org/strengtheningcommunities/

National Neighborhood Indicators Partnership (NNIP). http://www.neighborhoodindicators.org/about-nnip/nnip-concept