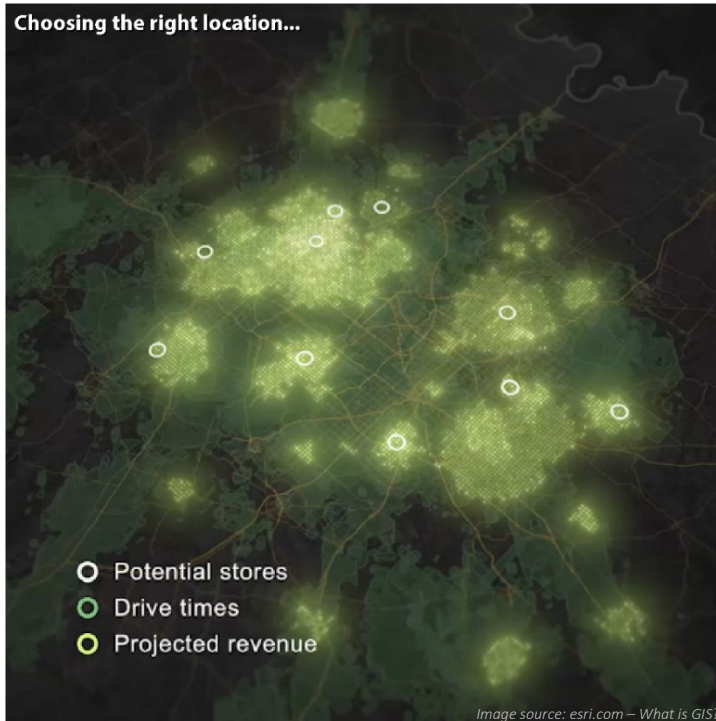


GIS BASICS ACROSS DISCIPLINES

Syllabus



INSTRUCTOR
 Beth Wilkerson
 Julian 110
 x6554
bwilkerson@depauw.edu

CLASS
 Julian 201
 2:20-3:50 p.m. TR

OFFICE HOURS
 3:00-3:50 p.m. MWF
 or by appointment

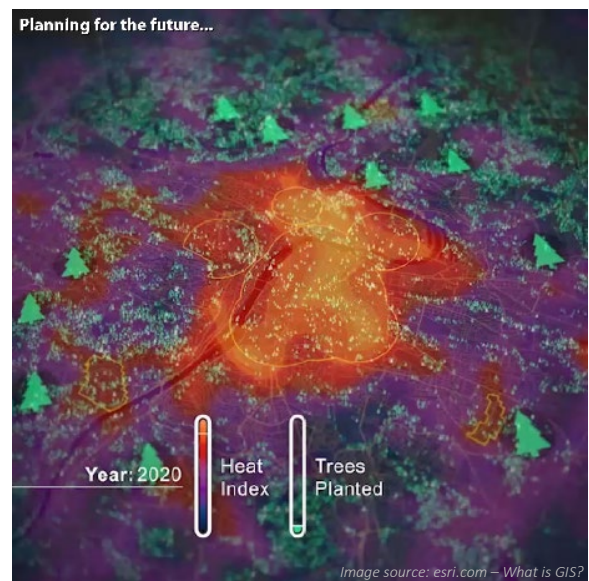
REQUIRED TEXT
GIS Fundamentals
 7th Edition
 by Paul Bolstad & Steven Manson

Note: This syllabus is meant to provide a general outline for the course. At my discretion, I may add or omit topics and/or modify the schedule. Also, because this is the first offering of this course, I may perform real-time adjustments to the course format, activities, assignments, etc. to better align with course goals.

COURSE TOPIC

Maps are everywhere. Today, maps are found on the internet, in automobiles, on mobile devices, and the list goes on. However, unlike the accordion-folded paper diagrams that historically were found in every car’s glove box, 21st century maps are colorful, interactive, searchable, and provide far more information and insight than just how to get from point A to point B. The key technology behind this transformation of the static map into robust, dynamic, interactive multimedia is Geographic Information Systems or GIS.

GIS is a technology that creates, manages, organizes, visualizes and analyzes all types of data to help us gain a deeper understanding of our world. GIS integrates data from various sources and presents it on a map, helping us to recognize patterns, trends, relationships, etc. that may have been hidden otherwise. GIS is a unique problem-solving technology that is utilized by essentially every industry to provide insight into daily tasks as well as the challenges of the future.



COURSE GOALS

This course provides a basic introduction to the concepts and tools of Geographic Information Systems (GIS) with a focus on how these tools can be applied across various disciplines. Students gain a foundational understanding of basic GIS concepts including mapping techniques, data management, and spatial data analysis. The course emphasizes practical applications by integrating GIS tools and techniques into diverse fields such as environmental science, public health, business, social justice, etc.

Learning Outcomes:

Upon completion of this course, **students will be able to...**

- Understand and apply fundamental GIS concepts and tools.
- Analyze spatial data and create informative maps and visualizations.
- Utilize GIS techniques and basic spatial analysis methods to solve problems.
- Demonstrate the application of critical thinking and problem-solving skills related to spatial data analysis.



Course Format:

This course leverages various instructional strategies to maximize student learning, including lectures, hands-on activities, homework, and project-based assignments.

Participation:

Participation grades will be based on a “standard” - “sub-standard” system. A “standard” grade means you are attending class consistently, you’re prepared and on time, and you are participating in a reasonable way during most class sessions. A “sub-standard” rating can result from excessive absences/tardiness, consistent lack of preparation or participation in activities, electronic distraction, sleeping/lack of attention, frequently getting up in class and/or leaving the classroom during class, etc.

Assessment:

Final grades will be based upon exams, quizzes, participation, homework/assignments/activities, and a final project as specified below.

Percentage of Final Grade	
Exams/Quizzes	40%
Homework/Assignments/Activities/Participation	30%
Final Project/StoryMap/Presentation	30%
Grading Scale	
A	93 – 100%
A-	90 – 92%
B+	87 – 89%
B	83 – 86%
B-	80 – 82%
C+	77 – 79%
C	73 – 76%
C-	70 – 72%
D+	67 – 69%
D	63 – 66%
D-	60 – 62%
F	0 – 59%

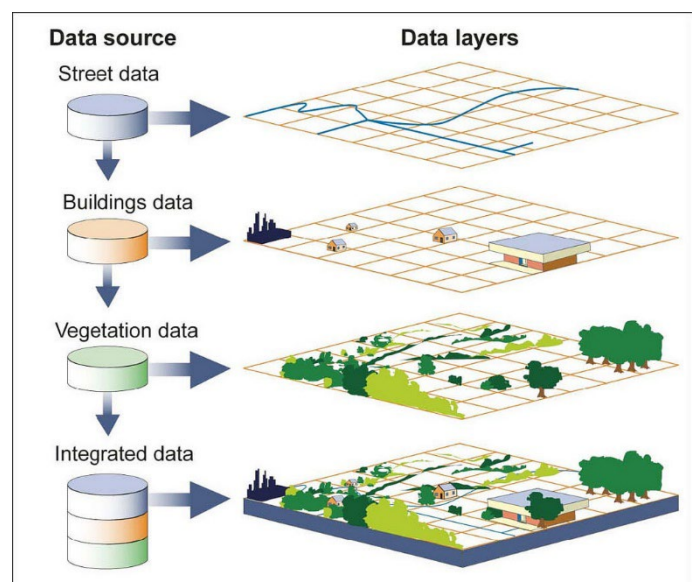


Image source: National Geographic – Education / GAO
 Illustration of three data layers on a GIS Map

TENTATIVE CLASS SCHEDULE*

Week	Topics	Reading Assignment	Other
01: 01/27 – 01/31	Introduction GIS Basics	Chapter 1	
02: 02/03 – 02/07	GIS Data Models	Chapter 2	<i>Adjustment period ends: 02/03</i>
03: 02/10 – 02/14	Coordinate Systems Map Projections	Chapter 3	
04: 02/17 – 02/21	Data Entry/Editing	Chapter 4	
05: 02/24 – 02/28	GNSS and GPS Aerial/Satellite Imagery	Chapter 5 Chapter 6	
06: 03/03 – 03/07	Digital Data	Chapter 7	
07: 03/10 – 03/14	Attribute Data and Tables	Chapter 8	
08: 03/17 – 03/21	SPRING BREAK (03/15 – 03/23)		
09: 03/24 – 03/28	Vector Analysis	Chapter 9	<i>Last day to withdraw from course: 03/28</i>
10: 03/31 – 04/04	Raster Analysis	Chapter 10	<i>Final project: Topic selected</i>
11: 04/07 – 04/11	GIS Applications: Environmental Science		<i>Final project: Proposal submitted</i>
12: 04/14 – 04/18	GIS Applications: Business		
13: 04/21 – 04/25	GIS Applications: Public Health		
14: 04/28 – 05/02	GIS Applications: Social Justice		
15: 05/05 – 05/09	GIS Applications: TBD		<i>Last day of classes: 05/08 Final project: Maps of analysis results turned in</i>
Final project/StoryMap presentations: Thursday, May 15, 2025, 1:00 – 4:00 p.m.			
<i>*Topics and schedule are subject to change at the discretion of the instructor.</i>			

Policies

ADA STATEMENT

It is the policy and practice of DePauw University to create an inclusive learning environment and to provide reasonable accommodations for students with properly documented disabilities. If you are eligible to receive an accommodation and would like to request it for this course, please contact Student Accessibility Services as written notification from Student Accessibility Services is required. At least one week advance notice is necessary to allow adequate time for reasonable accommodations to be made. Otherwise, it is not guaranteed that the accommodation can be provided on a timely basis. Accommodations are not retroactive. Students who have questions about Student Accessibility Services or who have, or think they may have, a disability (psychiatric, attentional, learning, vision, hearing, physical, medical, etc.) are invited to contact Student Accessibility Services for a confidential discussion. Student Accessibility Services can be reached by phone at 765-658-6267 or by email at studentaccessibility@depauw.edu.

ATTENDANCE

Regular, on-time attendance is expected and monitored (see the Student Handbook <https://www.depauw.edu/handbooks/academic/>). As stated in the Student Handbook, excessive absences can be grounds for being dismissed from the course. In addition, it has been my experience that learning comprehension improves dramatically when students are present to listen to lectures, to ask questions, to participate in activities, and to discuss the material in the classroom setting. If you know that you will be absent (e.g., health issue regarding yourself or immediate family, athletic obligation, etc.), please contact me in advance (or ASAP afterwards). If you miss a class due illness, athletic obligation, etc., you are responsible for obtaining notes, assignments, homework, etc. from another student in the class.

ACADEMIC INTEGRITY

Cheating, plagiarism, submitting the work of others (including an AI) as your own, or any attempt to gain an unfair advantage over other students in the class violates DePauw's policy on academic integrity and will be handled in accordance with established University procedures as described in the Academic Handbook section on [Academic Integrity](#).

DePauw Academic Resources on Academic Integrity:

<https://www.depauw.edu/academics/academic-resources/academic-integrity/>.

Writing Center Information on Plagiarism:

Plagiarism: Using the words or ideas of another writer, including AI-generated text, without attribution, so that they seem as if they are your own. Plagiarism ranges from copying someone else's work (including AI-generated text) word for word, to rewriting such work with only minor word changes (mosaic plagiarism), to summarizing work (including that done by AI) without acknowledging the source. See the Writing Center Guide to Avoiding Plagiarism for further information on plagiarism: <https://www.depauw.edu/academics/academic-resources/academic-resource-center/w-center/w-center-handouts/>

CELL PHONE/COMPUTER/SMART DEVICE USE

Before class begins, turn off or silence your cell phone and put it away in your book bag.

- Do not check or send voicemail or text messages during class.
- Do not leave class to check or send messages unless
 1. you have an emergency (inform your instructor prior to the start of class of special circumstances involving a personal emergency situation that may require you to use your phone when class is in session) or
 2. you are on an instructor-designated break.

In other words, do not use your cell phone in class for any reason at any time unless you have consulted with the course instructor.

If you have a cell phone/smartwatch on your person or on your desk/table during an exam without the instructor's permission, you will receive a 0 on the exam, and you will automatically be considered in violation of DePauw's academic integrity policy on cheating due to unauthorized use of a cell phone/smartwatch. You may not take your cell

phone/smartwatch with you on bathroom breaks during exams. Please read <https://www.insidehighered.com/blogs/just-visiting/open-letter-incoming-freshmen>.

Desktop/laptop computers, tablets, smartwatches, and other electronic devices are not allowed to be used in the classroom except for activities directly related to the course as specified by the instructor (e.g., do not check or send emails, chats, or texts, do not use your web browser except for course-sanctioned activities, do not use to take notes, etc.). Quit all programs not specifically designated by your instructor. Violating the cell phone/computer/smart device use policy is one way to negatively impact your participation grade.

CLASSROOM BEHAVIOR

- Arrive early to class. Be in your seat with the computer on and ready to learn by the class start time, 2:20 p.m. Arriving late to class, at the very least, is a disruption to everyone and may also result in you potentially missing important information/material. Remember, early is on time, and on time is late.
- Respect everyone...yourself, your peers, and your instructor.
- Obey the Geoscience Mac Lab policies, specifically,
 - No food or drink is allowed in the computer lab.
 - Shutdown computer when you're done using it.
 - Save computer data/work on the I: drive in the space provided you for this class. Do **not** save it on the local computer drive. Due to the required security software installed on the lab systems, anything saved to a local drive/folder will be automatically deleted when the computer is shutdown/restarted.
- Listen and contribute. Lecture and discussion portions of the class can quickly morph into lecture only if you are not an active and contributing participant.
- Work to the best of your ability. True learning is hard work and is constructed and nurtured by you (not simply transferred from the instructor). A strong work ethic will not only serve you well in this course, but in life in general. Do not settle for less than your best effort.
- Commit yourself to learning in the classroom. Do **not** routinely get up during class to take care of personal needs (e.g., bathroom breaks, social networking, etc.). Please address these needs during the break between classes. If an emergency occurs, please feel free to leave the classroom to address it.

AUDIO/VISUAL POLICY

- No audio, video, or still picture recordings are allowed during class without the instructor's permission.
- No video recordings, still picture, or other means of duplication (e.g., xeroxing) of homework assignments, labs, exams, etc. are allowed without the instructor's permission.
- You are not permitted to record any of our class meetings. Student Accessibility Service accommodations pertaining to recordings of lectures for taking notes will be discussed and addressed by the instructor.
- Materials (or derivative materials) from this course may not be shared, replicated, or published, in whole or in part, or used for any other purpose, without my written approval.

COVID-19 PROTOCOLS

The DePauw University current Covid-19 guidelines (<https://www.depauw.edu/campus-life/wellness/coronavirus/current-covid-19-guidelines-fall-2024/>) will be followed in this course. Please carefully read and follow these guidelines. In particular,

- Masking with KF94, KN95 or N95 mask is **required** for ANYONE who: is experiencing symptoms that could be consistent with a respiratory virus (i.e. fever, chills, fatigue, cough, runny nose, and headache); tested positive for COVID-19 in the last 5 days; or was exposed to COVID-19 in the last 10 days.

Assess your personal health daily. If you have symptoms of COVID-19, it is of the utmost importance to put on a mask and contact the DePauw Health Wellness Center by calling 765-658-4555.

