

GEOG 4/58 I: Geographic Information Science I

Term:	Winter 2019
Lecture:	Monday & Wednesday 9:00-9:50am 175 Lillis Complex
Labs:	Section 1: Monday 12:00-1:50pm Section 2: Monday 2:00-3:50pm 442 McKenzie Hall- SSIL (Social Science Instructional Lab)
Professor:	Dr. Carolyn Fish Assistant Professor of Geography 165 Condon Hall cfish11@uoregon.edu Office Hours: 10:00-11:00am Monday and Wednesday or by appointment
Teaching Assistant (GE):	Geoffrey Johnson PhD Candidate in Geography 217 Pacific Hall gmi@uoregon.edu Office Hours: Wednesday 2:00-4:00pm in Knight Library Reed Rm 235
Required Textbook:	Longley, Paul A., Michael F. Goodchild, David J. Maguire, and David W. Rhind. <i>Geographic information systems and science</i> . John Wiley & Sons, 2005. A copy of the textbook is available on Course Reserve at the Knight Library for up to four hours.
Course Description:	This class is an introduction to concepts behind organizing, analyzing, and visually presenting geospatial information. This class addresses three major questions: <ol style="list-style-type: none">1. How can one sense and represent the variation in the world around us?2. How to record, recall, and analyze this information?3. How to communicate and discuss this information with others? GIScience I explores these questions through the applied use of software designed to facilitate the collection, analysis, symbolization, and communication of information about the world; that is to turn observations of the real world into information useful for acting in the real world. This is often done with maps, and much of the work will involve the creation of maps.
Course Objectives:	After completing this course, students should be able to: <ul style="list-style-type: none">• Plan and execute basic GIS analysis using a software application framework.• Communicate the results of an analysis through language and graphics.• Articulate the characteristics of and differences between data representations.

- Identify and critique choices made in map design.
- Critically evaluate geospatial arguments in popular media.
- Develop skills in information-seeking.

Attendance Policy: You are expected to attend class. Attendance will be taken at each lecture and lab. You have a grace of 3 absences. After three, one percentage point is deducted from your final grade for each additional absence.

For example, a student with a 78% in the course who has six absences would be penalized 3% and their grade will drop to 75%.

You do not need to provide the professor or the GE with information for any absences. You may use them at your own discretion; however, you should use these absences wisely since any absences (no matter the reason) will be counted against your grade.

Grading: 10% — In-class activities. Due at the end of class time.
 50% — Lab assignments. Due at the start of the next lab’s session.
 40% — Exams: Two will be conducted, in-class.

A+	95-100	C+	77-79.9
A	92-94.9	C	74-76.9
A-	90-91.9	C-	70-73.9
B+	87-89.9	D+	67-69.9
B	84-86.9	D	64-66.9
B-	80-83.9	D-	60-63.9
		F	59.9 and below

Graduate students will be graded differently, see below under “Graduate Students.”

Exams: There are two non-cumulative exams. If you need to miss an exam, please request permission to take a makeup exam. An alternative exam will be provided for you that requests responses for six to eight essay questions as opposed to the short answer exam given during the normal exam period.

Lab Assignments: There are eight lab assignments. Each lab assignment will be introduced by the GE during your lab session. Most lab assignments will be due one week after they were introduced and assigned. These will be turned in on Canvas. The exception for this is Lab 3, Lab 7 and Lab 8. You will have two weeks to complete Lab 3 & 7. You will have slightly less than one week to complete Lab 8, which will be turned in during Finals Week.

There is a handy Lab 0 document that can familiarize you with the file system and servers in the SSIL computing environment, available on the class website.

Labs turned in late (beginning at one minute late) will be penalized by 10% deduction per day. After 10 days late, students will receive a zero for an assignment.

In-class activities: During some classes, we will pause the lecture to do an in-class activity of some sort. These will be interactive: the activity will involve the entire class or a small group. Each person will turn in a paper with some responses related to the activity, so be sure to have paper on hand.

Graduate Students: Graduate students taking the course for 581 credit will be graded on a different grading scale. These students are also required to do an additional 40 hours of work, per university policy. To account for this, graduate students will need to complete a final project which will be presented during lecture in Week 10. It is best to begin this project early and there will be several milestones to complete throughout the course for full credit for the final project. Preferably this project is related to or for your thesis or dissertation. The instructor will meet with graduate students early in the quarter to go over the additional requirements for 581 credit.

Student Conduct: The University Student Conduct Code (available at <https://dos.uoregon.edu/conduct>) defines academic misconduct. Students are prohibited from committing or attempting to commit any act that constitutes academic misconduct. By way of example, students should not give or receive (or attempt to give or receive) unauthorized help on assignments or examinations without express permission from the instructor. Students should properly acknowledge and document all sources of information (e.g. quotations, paraphrases, ideas) and use only the sources and resources authorized by the instructor. If there is any question about whether an act constitutes academic misconduct, it is the students' obligation to clarify the question with the instructor before committing or attempting to commit the act. Additional information about a common form of academic misconduct, plagiarism, is available at researchguides.uoregon.edu/citing-plagiarism.

				Lectures	Readings	Labs
1	Jan	7	M	Introduction to GIScience I	Ch 1	Lab 1
	Jan	9	W	The History & Nature of GIS	Ch 2	
2	Jan	14	M	Projections & Coordinate Systems	Ch 4	Lab 2
	Jan	16	W	Data Models & SQL	Ch 3	
3	Jan	21	M	MLK Day- No Classes	None	No labs this week (MLK)
	Jan	23	W	Vector Data	Ch 7	
4	Jan	28	M	Vector Operations	Ch 13	Lab 3
	Jan	30	W	Combining Data - Attribute joins	TBD	
5	Feb	4	M	Spatial Analysis	Ch 14	Lab 4
	Feb	6	W	Test 1	None	
6	Feb	11	M	Raster Data	Ch 11	Lab 5
	Feb	13	W	Raster Analysis	TBD	
7	Feb	18	M	How and Where to get data	Ch 8	Lab 6
	Feb	20	W	Spatial Modeling	Ch 15	
8	Feb	25	M	Guest Lecture: Henry Luan	Ch 11 &12	Lab 7
	Feb	27	W	Cartography and Geovisualization	TBD	
9	Mar	4	M	Guest Lecture: TBD	TBD	Lab 7 (con't)
	Mar	6	W	Test 2	None	
10	Mar	11	M	Grad Student Final Project Presentations	None	Lab 8
	Mar	13	W	Grad Student Final Project Presentations	None	
Finals Week				Lab 8 due by Friday March 22th at 5pm		