

San José State University
College of Social Sciences/Geography Department
Geog. 171, Mapping & GIS, Sections 3 & 4, Spring 2018

Instructor:	Maureen Kelley, PhD
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Office Hours:	Mondays & Wednesdays 1400 to 1430, & by appointment
Lecture Classroom:	Washington Square Hall 113 (24 & 31 January 2018) Washington Square Hall 111 (After 1 February 2018)
Lecture Days & Time	Wednesdays 1700 to 1845
Lab Classroom:	Washington Square Hall 113
Lab Days & Time:	Wednesdays 1900 to 2145
Prerequisites:	Geography 1 & Geography 170, or instructor consent

Course Format

This course will be taught as a lecture and laboratory course. Active participation by all students in both sections is essential to passing this course. Course laboratory exercises, one exams, a geographic information systems (GIS) case study or software demonstration, graded participation, and a final project will be used as a basis for grading. Lecture slides and laboratory assignment submissions will be submitted on the Canvas websites.

Course Description

Maps as tools of geographic expression and research. Introduction to spatial analysis through geographic information systems. Data collection and description; measuring absolute and relative location, patterns, interaction and association.

This course is the second in a one-year sequence that teaches students to the foundations of mapping and geographic information science (GISci). Lectures are used to lay the theoretical foundations of the mapping sciences, and laboratory exercises are used to provide the student the fundamental tools to build a geographic information system (GIS) project.

Course Learning Outcomes (CLO)

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

1. develop your ability to read and interpret map and GIS displays

2. measure and model spatial data in two- and three-dimensions
3. use locational insights to solve simulated real-world analytical problems and make choices among alternatives
4. Integrate theory/science with technology to design, implement and present a GIS project.

Required Texts/Readings

Required Textbook

Jensen, J. R., & Jensen, R. R. (2013). *Introductory geographic information systems*. Boston: Pearson Educational.

The textbook's print addition ISBN number is 978-0-13-614776-3 and is available through Spartan Bookstore, Barnes and Noble, Vital Source, and Amazon.com for rent or purchase.

Other equipment/material requirements

- ArcGIS10.5 for Desktop (optional)
- Microsoft Office (student version available) or Apache OpenOffice
- Adobe Creative Suite utilizing Acrobat Reader (available as Adobe Creative Cloud for students)
- external USB flash drive

Computer Internet access is essential for accessing materials and uploading assignments on Canvas. All assignments must be submitted and uploaded to Canvas in Adobe portable document format (.pdf) or Microsoft Word Document format (.doc) unless otherwise specified.

Library Liaison

The geography liaison at Martin Luther King Jr. library is Nyle Monday. He can be reached at nyle.monday@sjsu.edu.

Course Requirements and Assignments

Please review University policies regarding syllabi at:

- [University Syllabus Policy S16-9](http://www.sjsu.edu/senate/docs/S16-9.pdf) at <http://www.sjsu.edu/senate/docs/S16-9.pdf>.
- Office of Graduate and Undergraduate Programs' [Syllabus Information web page](http://www.sjsu.edu/gup/syllabusinfo/) at <http://www.sjsu.edu/gup/syllabusinfo/>

“Success in this course is based on the expectation that students will spend, for each unit of credit, a minimum of 45 hours over the length of the course (normally 3 hours per unit per week with 1 of the hours used for lecture) for instruction or preparation/studying or course related activities including but not limited to internships, labs, clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.”

University policy F69-24 at <http://www.sjsu.edu/senate/docs/F69-24.pdf> states that “Students should attend all meetings of their classes, not only because they are responsible for material discussed therein, but because active participation is frequently essential to insure maximum

benefit for all members of the class. Attendance per se shall not be used as a criterion for grading.”

Methods

The course will involve a combination of lectures, discussions and participation, one take home midterm, one Internet GIS software review, laboratory exercises, and a final project for grade determination. You should read the assigned sections of the textbook and readings prior to the week in which they are discussed. The lectures and discussions will expand on the materials from the readings. Discussions will involve all members of the class because you will be evaluated on participation. Laboratory exercises will cover a range of GIS analysis techniques and one map interpretation exercise. You should also keep up with the lab assignment because they are designed to build your knowledge in incremental steps.

Laboratory Exercises

Nine formal exercises involving GIS production and spatial analysis will be assigned for the laboratory section and the total is worth 50% of your grade (600 points). Each exercise is due at the beginning of the laboratory section when a new exercise is distributed.

Examination

There will be one take-home midterm and is worth 8% of your total grade (100 points). The midterm will consist of two parts: Part 1 will be multiple choice and fill-in-the-blank questions; and Part 2 will be essays in which students are required to answer two of four questions. Students will have two weeks to complete the take-home exams. There will be no makeup examinations unless for serious and compelling reasons.

Class Participation

Plan to attend all class meetings. Active participation is a vital element of the course. This not only makes the class more interesting and enjoyable, but you are responsible for material discussed during class and you cannot earn an “A” without participating. Your class participation grade will include contributing to discussions and in-class exercises.

Quality participation also includes reading weekly assignments prior to attending class, volunteering information and ideas to discussions, asking and answering questions, and being an active participant on Canvas. The majority of the participation points are earned by posting the answers on Canvas via text entry or contributing to the Discussion, please use the course Canvas website to determine if there are new discussions or participation assignments. The questions will be posted on the Canvas website on the Discussion board for each day’s class discussion. Class participation is worth 100 points, 8% of your final grade, which 10 points out of the 100 points will be calculated based on your Canvas activities per week (Canvas interaction score).

The Canvas interaction score (maximum 10 points) will be weighted based on the median score of all students in the class:

Weekly Weighted Score = Page Views + Participation + (Submissions + On-time Submissions – Late Submissions – Missing Submissions).

Internet GIS Software Review

There will be a summary and review of an Internet GIS software website. The review will involve finding an Internet website that is an on-line mapping and analysis application or a website that has geospatial data for downloads, writing a brief summary of the capabilities and usefulness of the website, a brief “how-to manual” for other students to navigate the site, and

submitting the summary to the Canvas website for other students' viewing. All students are required to read, critique, and write comments in the discussion section. The review is worth 100 points and 8% of the final grade.

Final Project

You will produce a final project of your choice using techniques learned during the semester, and the project is worth 300 points total and 25% of your final grade. The final project will involve obtaining spatial data, integrating the data in a GIS, perform appropriate geospatial analysis, and presenting your data.

Your final project must be approved prior to commencing. Undergraduate students will be required to submit an informal one-page project proposal; whereas, graduate students will be required to submit a two to three-page formal proposal by the sixth week of the semester. By the tenth week of the semester, all students are required to submit a project outline. All students are required to present their completed project as a poster and oral presentation to the class during the final exam period. There will be a five to ten-minute presentation on your final project on the day of the final. All final projects will be in the format as a mounted document and will be displayed outside the geography rooms in Washington Square Hall for a period of three months to six months.

Grading Information

This course must be passed with a C or better as a Geography department graduation requirement.

Correct use of English is a fundamental requirement for your assignments to be graded. If a minimum of 20 errors in spelling, syntax, grammar, or technical errors are detected, then there is an automatic 10% reduction in grade for all essays. Grading rubrics for essays and exercises are on the Canvas website.

Formal academic writing guidelines are essential for this course. Please upload your assignments as either an MSWord document (.doc) or Portable Document File (.pdf) only unless otherwise specified. All raster graphics should be submitted as a portable network graphic (.png).

All assignments must be written using formal academic writing styles conforming to standard guidelines unless otherwise specified:

- lastname first initial_course number_assignment number (ie kelleym_G112S1_essay1.doc)
- Times New Roman 12pt normal font
- double line spacing
- 1" margin all around
- APA citation method
 - cover page for midterm only
 - running head for midterm only
 - reference page (anytime you cite other work)
 - page numbers
 - use proper headings and enumeration styles
- Use style sheets and formatting styles—style sheets are your friends!
- Please DO NOT add your student name/class/date heading on your assignments because the file name and date stamp on Canvas provides me with this information
- Also, do not include questions or prompts on assignments

If any of the above standards are not adhered to, then you will get an initial kickback and request to redo. If you do not redo this within the two week window, then for each violation of a major bullet point a reduction of 0.1 point will be assessed from your total score. Refer to the [Purdue Owl General APA Guidelines](#) webpage.

I am your target audience. Therefore, I expect a formal tone from your essays: **no breezy style** and **no contractions**. If any of the previously mentioned styles are used, then they will be counted as an error of syntax and/or grammar. Refer to the [Purdue Owl Appropriate Language: Overview](#) webpage for more information.

Remember, the first 20 errors will be counted and an overall 10% reduction will be assessed on your assignment. Therefore, it is vital that you proofread your paper before you submit!

Determination of Grades

A strong performance in all areas of assessment is necessary to achieve the highest grade in this course. You will not be graded on attendance. However, it is not possible to do well if you are not present in class to join in discussions and complete the laboratory exercises.

It is your responsibility to inform me in advance if you know you must miss a class for a valid reason. Excused absences refer to illness, family responsibilities, and similar necessities. Exceptions to these policies will be made only in the case of officially documented emergencies. Contact me regarding emergencies as soon as possible—before an assignment is due rather than after it is already late—so special arrangements may be made.

Grade Breakdown

Assignments	Points	Percent
Exercises (9)	600	50
Exam (1)	100	8
Software review (1)	100	8
Participation	100	8
Final project	300	25
Total	1200	100

Letter Grades: Percentage Ranges & Point Ranges

Letter Grade	Percent Range	Points Range	Letter Grade	Percent Range	Points Range
A+	97.00 to 100.00	1164.0 to 1200.0	C+	77.00 to 79.99	924.0 to 959.9
A	93.00 to 96.99	1116.0 to 1163.9	C	73.00 to 76.99	876.0 to 923.9
A-	90.00 to 92.99	1080.0 to 1115.9	C-	70.00 to 72.99	840.0 to 875.9
B+	87.00 to 89.99	1044.0 to 1079.9	D+	67.00 to 69.99	804.0 to 839.9
B	83.00 to 86.99	996.0 to 1043.9	D	63.00 to 66.99	756.0 to 803.9
B-	80.00 to 82.99	960.0 to 995.9	D-	60.00 to 62.99	720.0 to 755.9
			F	0.00 to 59.99	0.00 to 719.9

Late or Missing Work

Late assignments will be reduced 1% of the total of the assignment for each calendar day missed (one class session missed equals 7% reduction in grade). No late assignments will be accepted after the last full day of instruction.

Extra Credit

TBD

Note that “All students have the right, within a reasonable time, to know their academic scores, to review their grade-dependent work, and to be provided with explanations for the determination of their course grades.” See University Policy F13-1 at <http://www.sjsu.edu/senate/docs/F13-1.pdf> for more details.

Classroom Protocol

We all want to be in a positive learning environment. Course content can be challenging. I expect everyone to be respectful of opinions, other students, and the instructor. I will make every effort

to be prepared for class, start and end class on time, turn back assignments in a timely manner, and be available during my office hours for help.

I expect my students to be prepared for class, come to class on time, and turn in assignments on time. I expect all students to refrain from reading non-course-related materials during class. The use of any personal communication devices during class time is not allowed. Please show common courtesy to your fellow classmates—turn off cell phones, pagers, i-Pods, and so forth. Please refer to the Students Rights and Responsibilities Academic Policy at <http://www.sjsu.edu/senate/docs/S16-15.pdf>.

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programs' Syllabus Information web page at <http://www.sjsu.edu/gup/syllabusinfo/>”

Computer Use

You may use computers in the classroom only for class-related activities. These include activities such as taking notes on the current lecture, following the lecture on web-based slides that the instructor has posted, and finding websites to which the instructor directs students at the time of the lecture. Students using their computers for other activities will be asked to leave the class and, at a maximum, will be referred to the Judicial Affairs Officer of the University for disrupting the course (such referral can lead to suspension from the University).

Geography Technology Laboratory Policies and Procedures

Eating and drinking are prohibited in WSQ 113. Eating and drinking are allowed in WSQ 111. Please clean up after yourself when using lab materials such as maps and graphic materials. Given that the lab is communal and there are a limited number of computers, priority is for students who are assigned for their specific lab time. Please be courteous to other students and lab instructors while in the lab.

Keep your work on your flash drive and do not manipulate the system in any inappropriate manner (changing backgrounds, viewing inappropriate websites, downloading or installing applications without permission, changing passwords, and other obnoxious computer hacks). Please inform the lab instructors of any computer-related problems—do not try to fix the problems yourself. Printing documents should be done judiciously and sparingly.

USB flash drives are allowed but must be scanned prior to lab use. All computers have Malware Bytes and Sophos running. Please be wise and scan for viruses!

Geog. 171: Mapping & GIS Spring 2018, Course Lecture Schedule

The course schedule is subject to change with fair notice and notifications will be sent out via Canvas or classroom postings.

Week	Date	Topics, Readings, Assignments	Due
1	01/24	Introduction to the Lab	
2	01/31	Projections (Ch. 2) Review Chapter 1 Initial Project Proposal (Proposal 1)	
3	02/07	Remote Sensing (Ch. 3 p. 77–102) Data Quality (Ch. 4)	
4	02/14	Vector Analysis (Ch. 6 p. 149–164, 191–193) Review Chapter 5 Formal Project Proposal (Proposal 2)	Initial Proposal
5	02/21	Raster Analysis (Ch. 6 p. 165–193) Review Chapter 5 Software Review	
6	02/28	Hypsometric Map Analysis & Cartography (Ch. 10) Data Dictionary 1	Formal Proposal
7	03/07	3D Analysis—Vectors (Ch. 9 p. 257–258, 276–277)	
8	03/14	3D Analysis—Rasters (Ch. 9 p. 259–277) Midterm	
9	03/26	SPRING BREAK	
10	04/04	OPEN LAB	Software Review
11	04/11	Spatial Statistics—Linear & Area Measurements & Descriptive Statistics (Ch. 8 p. 233–243, 252–254)	Midterm
12	04/18	Spatial Statistics—Spatial Autocorrelation & Point Pattern Analysis (Ch. 8 p. 244–254)	Data Dictionary 1
13	04/25	Lab 6: Network Analysis (Ch. 7)	
14	05/02	Lab 7: Modeling & Programming (Ch. 11)	
15	05/09	<i>Final Projects</i>	
Final Exam	05/16	PROJECT PRESENTATIONS WSQ113 1715 to 1930	Project

Geog. 171: Mapping & GIS Spring 2018, Course Lab Schedule

The course schedule is subject to change with fair notice and notifications will be sent out via Canvas or classroom postings.

Week	Date	Activities	Due
1	01/24	Introduction to the Lab Pre-exercise 1	
2	01/31	Lab 1: Projections	
3	02/07	Lab 2: Sampling vs Censusing	L1
4	02/14	Lab 3: Vector Analysis	L2
5	02/21	Lab 4A: Hypsometric map interpretation	L3
6	02/28	Lab 4B: Raster Analysis	L4A
7	03/07	Lab 4C: 3D Analysis using ArcScene	
8	03/14		
9	03/26	SPRING BREAK	
10	04/04	OPEN LAB	
11	04/11	Lab 5: Spatial Statistics	L4B, L4C
12	04/18		
13	04/25	Lab 6: Network Analysis	L5
14	05/02	Lab 7: Modeling & Programming	L6
15	05/09	<i>Final Projects</i>	L7
Final Exam	05/16	PROJECT PRESENTATIONS WSQ113 1715 to 1930	Project