

San José State University
College of Social Sciences/Geography & Global Studies
Geography 172 Cartography: Compilation & Presentation
Lecture & Lab Sections 1 & 2 Spring, 2016

Course and Contact Information

Instructor:	Maureen Kelley, PhD
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Office Hours:	Mondays & Wednesdays 1530 to 1600 and Tuesdays 1500 to 1600, and by appointment
Class Days/Time:	Tuesdays 1630 to 1815
Classroom:	Washington Square Hall 111
Laboratory Days/Time:	Tuesdays 1830 to 2115
Laboratory Classroom:	Washington Square Hall 113
Prerequisites:	GEOG 1 and GEOG 170 or instructor consent

Course Format

This course is a combination lecture and laboratory course. Course lecture slides; assignments, and quizzes will be posted on the Geography 172 Canvas web pages. However, do not rely on the website to catch everything presented in class. This is only a baseline. Do not use the website as a crutch, as well, and only show up for the laboratory when we are working on assignments.

Course Description

Techniques of compilation, design, construction and production. Lab projects applying computer graphics and geographic information systems to the effective presentation of geographic themes and information.

Geography 172 covers the compilation, design, and production of “maps.” Laboratory projects apply computer geographic information systems (GIS) and computer graphic applications to effectively present geographic information. All aspects of the mapping process will be addressed such as map projections, generalization, symbolization, design, and production. This course emphasizes the theoretical nature of graphic communication through the means of a geographic product.

Course Learning Outcomes and Course Goals

The course objectives are to have the student develop the skills necessary to effectively present spatial data. At the end of the semester the student will:

1. understand cartography as a major sub-discipline of Geographic Information Science (GISci)
2. produce “maps” conforming to generally accepted cartographic conventions
3. objectively critique one’s own cartographic product as well as others’ products

Required Texts/Readings

Textbook

Dent, B. D., Torguson, J. S., & Hodler, T. W. (2009). *Cartography: Thematic map design* (6th ed.). New York: McGraw-Hill.

The text’s ISBN number is 978–0–07–294382–5.

Students can buy or rent the textbook at the Spartan Bookstore. This text is also available as an e-text on vitalsource.com.

Other Required Readings

Imhof, E. (2007). Area colors. *Cartographic relief representation. English-language edition*. Ed. H. J. Stewart. Redlands, CA: ESRI Press. 295–324.

MacEachren, A. M. (1995). Visualization in modern cartography: Setting the agenda. In MacEachren, A.M., & Taylor, D.R.F., (eds.) *Visualization in Modern Cartography*. New York: Elsevier Scientific. 1–12.

Miller, G. (1956). The magical number seven plus or minus two: Some limits on our capacity for processing information. *Psychological Review*, 63. 81–97.

Slocum, T. A., et al. (2009). Dasymetric mapping. *Thematic cartography and geovisualization, 3rd ed.* Upper Saddle River, NJ: Pearson Prentice Hall. 271–280.

Spence, R. (2001). *Information Visualization*. New York: Addison-Wesley. 1–13.

Wood, M. (2001). The 21st century world: No future without cartography. *Journal of Geospatial Engineering*, 3, 77–86.

Other equipment / software requirements

- Microsoft Office (student version available) or Apache OpenOffice
- Adobe Creative Suite utilizing Illustrator, Photoshop, Acrobat Reader, and InDesign (available as Adobe Creative Cloud for students)
- ESRI ArcGIS 10.3.1 (student version available)

Library Liaison

Nyle Monday is the Geography Department’s library liaison. His email address is nyle.monday@sjsu.edu and his phone number is (408) 808–2041.

Course Requirements and Assignments

SJSU classes are designed such that in order to be successful, it is expected that students will spend a minimum of forty-five hours for each unit of credit (normally three hours per unit per week), including preparing for class, participating in course activities, completing assignments, and so on. More details about student workload can be found in [University Policy S12-3](http://www.sjsu.edu/senate/docs/S12-3.pdf) at <http://www.sjsu.edu/senate/docs/S12-3.pdf>.

Methods

The course will involve a combination of lectures, discussions, take home examinations, and laboratory exercises. 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 in the text. Discussions will involve all members of the class. However, you will not be evaluated on participation. Laboratory exercises will cover a range of map and graphic production techniques including both manual and automated techniques.

Evaluation

Laboratory Exercises

Eight exercises creating a variety of maps and graphics will be assigned in the laboratory and the total is worth 50% of your grade. Each exercise is due at the beginning of the laboratory section when a new exercise is distributed. All exercises will involve the use of computer-based graphics.

The first six exercises will get you familiar with techniques and will be graded as the “core lab group” using objective criteria: 1–base map compilation; 2–map projections; 3–choropleth maps; 4–climographs; 5–dasymetric and proportional symbol maps; 6–hypsometric maps. The last two exercises (7–guide maps and 8–propaganda maps), including the final project, will be graded as the “cartographic lab group” using objective and subjective criteria. All students are expected to participate in class critique for the cartographic lab group—group critique tends to influence the instructor’s grade assignments.

Examinations

There will be two on-line exams and are worth 12.5% each, or 25% of your total grade. Each student will be required to answer three of five questions. The midterm exam will consist of questions regarding mapping basics, data classification, cartographic methods and representation techniques. The second exam will consist of cartographic theory, graphic design, visualization, and a cartographic critique. There will be no makeup examinations unless for serious and compelling reasons.

Final Project

You will produce a final project of your choice using techniques learned during the semester, and the project is worth 25% of your final grade. Your final project must be approved prior to starting. You will present your completed project to the class during the final exam period. All final projects will be in the format of an academic poster, or mounted document, and will be displayed outside the geography rooms in Washington Square Hall for a period of three months.

The final project will consist of four parts. The first will be an informal project proposal that you will email me using Canvas discussing what you wish to do and will be due by Week 5. The first project proposal is worth 5 points. The second project proposal will be a formal document detailing what the project will entail as well as a project management time line using standard academic writing style. The formal project proposal is designed to be a formal contract between the instructor and yourself. The second project proposal will be due by Week 13 and is worth 15 points. The project, proper, will be worked on during official lab time the last two weeks of the semester. The fourth and final part of the project is a two- to three-page write-up about your project addressing your methodology, positive and negative outcomes, as well as a reflection on the process. This assessment paper will be due on the day of the final and is worth 20 points.

NOTE that [University policy F69-24](http://www.sjsu.edu/senate/docs/F69-24.pdf) 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.”

Grading Policy

Laboratory Exercises

The following criteria will be used to grade lab exercises and the final project. The weighting for each area will vary from exercise to exercise. However, you should keep all of the criteria in mind when working on your maps and graphics.

1. Data preparation—Data should be properly processed. This means that your data classification and organization should be logical. You should use appropriate methods of data organization and symbolization. Your data and map base should be accurate.
2. Generalization—Your map and graphic information should reflect an appropriate level of generalization. You should use appropriate methods for achieving the level of generalization.
3. Graphic design—All of your maps and graphics should demonstrate appropriate graphic design techniques. Selection of symbolization, including line weights, symbol sizes, and text sizes, should reflect the overall objective for the map. You should use the different elements of graphic design appropriately and arranging the elements of your map in order to produce a presentation that is both interesting and readable.
4. Organization—Maps and graphics should display appropriate levels of production organization. This means that graphics should have the appropriate graphic elements assigned to the proper layers and style capabilities of the software effectively.
5. Quality of execution—The final graphic should demonstrate a high degree of quality. All digitized lines should join properly (no overshoots or undershoots), straight lines should be straight, curved lines should curve smoothly, and corners should be created properly. Map and graphic text should be spelled correctly and conform to standards. Map and graphic marginalia conform to conventions. Narrative text is coherent (no grammatical or spelling errors) and conforms to appropriate academic styles. Your maps and graphics should be clean and have no extraneous marks.

Laboratory Exercise	Description	Criteria 1 (points)	Criteria 2 (points)	Criteria 3 (points)	Criteria 4 (points)	Criteria 5 (points)	Total (points)
1	Base map compilation	5	10	0	5	5	25
2	Map projections	10	0	0	5	10	25
3	Choropleth map	5	5	5	5	10	30
4	Climograph	10	5	5	5	10	30
5.1	Dasymetric map	10	10	5	5	10	40
5.2	Proportional symbol map	10	10	5	5	10	40
6	Hypsometric map	10	10	10	10	10	50
7	Guide map	10	20	30	10	20	90
8	Propaganda map	10	10	20	10	20	70
Totals:							400

Late exercises will be reduced 2% in grade for each calendar day past the due date. An exercise will be treated as late if it is not turned in on the due date at the designated time unless other arrangements have been made in advance.

Examinations

Both exams are in the form of essay responses, and you are encouraged to use outside sources to answer the questions. Each exam answer will be one page length. Students will have two weeks to complete each exam. You will be graded on the completeness and accuracy, as well as quality, of your essays. All examination essays must conform to standard academic styles most appropriate to geography. This instructor requires American Psychological Association (APA) styles guidelines. Please review the course Formal Academic Writing Guidelines on Canvas for a more detailed explanation on what is required for writing.

Final Project

The first project proposal will be graded as either approved (5 points) or not approved (4 points to 2 points). Proposals will receive feedback. The second project proposal will be graded as a formal document conforming to formal academic writing styles. The formal proposal will include an abstract, project goals, descriptions of data dictionaries and data layers, descriptions of graphic standards, as well as a project timeline. The formal proposal grading will include a one-on-one meeting with the course instructor. Students are required to meet with the instructor no later than Week 12.

The project poster will comprise the majority of the points and the grading criteria will be the following:

Criteria 1 (points)	Criteria 2 (points)	Criteria 3 (points)	Criteria 4 (points)	Criteria 5 (points)	Total (points)
20	30	50	20	40	160

The assessment paper will be graded on the completeness, accuracy, and quality of writing same as the grading criteria used for examinations.

Extra Credit

There will be no extra credit for this course.

Grading Criteria and Percent Breakdowns

Assignments	Points	Percent
Lab exercises (8)	400	50.0
Exam 1	100	12.5
Exam 2	100	12.5
Project	200	25.0
Total:	800	100.0

Grading Breakdown

A “C” or better is considered a passing grade.

Letter Grade	Percent Range	Points Range	Letter Grade	Percent Range	Points Range
A+	97.00 to 100.00	776.00 to 800.00	C+	77.00 to 79.99	616.00 to 639.99
A	93.00 to 96.99	744.00 to 775.99	C	73.00 to 76.99	584.00 to 615.99
A-	90.00 to 92.99	720.00 to 743.99	C-	70.00 to 72.99	560.00 to 583.99
B+	87.00 to 89.99	696.00 to 719.99	D+	67.00 to 69.99	536.00 to 559.99
B	83.00 to 86.99	664.00 to 695.99	D	63.00 to 66.99	504.00 to 535.99
B-	80.00 to 82.99	640.00 to 663.99	D-	60.00 to 62.99	480.00 to 503.99
			F	0.00 to 59.99	0.00 to 479.99

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](http://www.sjsu.edu/senate/docs/F13-1.pdf) 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 and lab work 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, no passing notes, no talking, no sleeping, etc. 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, etc.

Personal computers may be used in class for taking notes or completing assignments only. Any other use is frowned upon.

University Policies

General Expectations, Rights and Responsibilities of the Student

As members of the academic community, students accept both the rights and responsibilities incumbent upon all members of the institution. Students are encouraged to familiarize themselves with SJSU's policies and practices pertaining to the procedures to follow if and when questions or concerns about a class arises, see University Policy S90–5 at <http://www.sjsu.edu/senate/docs/S90-5.pdf> and SJSU current semester's Policies and Procedures at <http://info.sjsu.edu/static/catalog/policies.html>. In general, it is recommended that students begin by seeking clarification or discussing concerns with their instructor. If such conversation is not possible, or if it does not serve to address the issue, it is recommended that the student contact the Department Chair as a next step.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, and so forth. Add/drop deadlines can be found on the current academic year calendars document on the [Academic Calendars webpage](http://www.sjsu.edu/provost/services/academic_calendars/) at http://www.sjsu.edu/provost/services/academic_calendars/. The [Late Drop Policy](http://www.sjsu.edu/aars/policies/latedrops/policy/) is available at <http://www.sjsu.edu/aars/policies/latedrops/policy/>. Students should be aware of the current deadlines and penalties for dropping classes.

Information about the latest changes and news is available at the [Advising Hub](http://www.sjsu.edu/advising/) at <http://www.sjsu.edu/advising/>.

Consent for Recording of Class and Public Sharing of Instructor Material

University Policy S12–7, <http://www.sjsu.edu/senate/docs/S12-7.pdf>, requires students to obtain instructor's permission to record the course.

Common courtesy and professional behavior dictate that you notify someone when you are recording him/her. You must obtain the instructor's permission to make audio or video recordings in this class. Such permission allows the recordings to be used for your private, study purposes only. The recordings are the intellectual property of the instructor; you have not been given any rights to reproduce or distribute the material. If you wish to record session, then please see me during my office hours to get my express permission. If there is to be active participation of students or guests on the recording, permission of those students or guests should be obtained as well.

Course material developed by the instructor is the intellectual property of the instructor and cannot be shared publicly without his/her approval. You may not publicly share or upload instructor-generated material for this course such as exam questions, lecture notes, or homework solutions without instructor consent.

Academic Integrity

Your commitment, as a student, to learning is evidenced by your enrollment at San José State University. The University Academic Integrity Policy S07–2 at <http://www.sjsu.edu/senate/docs/S07-2.pdf> requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the office of Student Conduct and Ethical Development. The Student Conduct and Ethical Development website is available at <http://www.sjsu.edu/studentconduct/> .

Campus Policy in Compliance with the American Disabilities Act

If you need course adaptations or accommodations because of a disability, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Presidential Directive 97–03 at http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf requires that students with disabilities requesting accommodations must register with the Accessible Education Center (AEC) at <http://www.sjsu.edu/aec> to establish a record of their disability.

Accommodation to Students' Religious Holidays

San José State University shall provide accommodation on any graded class work or activities for students wishing to observe religious holidays when such observances require students to be absent from class. It is the responsibility of the student to inform the instructor, in writing, about such holidays before the add deadline at the start of each semester. If such holidays occur before the add deadline, the student must notify the instructor, in writing, at least three days before the date that he/she will be absent. It is the responsibility of the instructor to make every reasonable effort to honor the student request without penalty, and of the student to make up the work missed. See University Policy S14–7 at <http://www.sjsu.edu/senate/docs/S14-7.pdf> .

Student Technology Resources

Computer labs for student use are available in the Academic Success Center at <http://www.sjsu.edu/at/asc/> located on the 1st floor of Clark Hall and in the Associated Students Lab on the 2nd floor of the Student Union. Additional computer labs may be available in your department/college. Computers are also available in the Martin Luther King Library. A wide variety of audio-visual equipment is available for student checkout from Media Services located in IRC 112. These items include DV and HD digital camcorders; digital still cameras; video, slide and overhead projectors; DVD, CD, and audiotape players; sound systems, wireless microphones, projection screens and monitors.

SJSU Peer Connections

Peer Connections' free tutoring and mentoring is designed to assist students in the development of their full academic potential and to inspire them to become independent learners. Peer Connections tutors are trained to provide content-based tutoring in many lower division courses (some upper division) as well as writing and study skills assistance. Small group and individual

tutoring are available. Peer Connections mentors are trained to provide support and resources in navigating the college experience. This support includes assistance in learning strategies and techniques on how to be a successful student. Peer Connections has a learning commons, desktop <http://www.sjsu.edu/writingcenter> <http://www.sjsu.edu/writingcentercomputers>, and success workshops on a wide variety of topics. For more information on services, hours, locations, or a list of current workshops, please visit [Peer Connections website](#) at <http://peerconnections.sjsu.edu> for more information.

SJSU Writing Center

The SJSU Writing Center is located in Clark Hall, Suite 126. All Writing Specialists have gone through a rigorous hiring process, and they are well trained to assist all students at all levels within all disciplines to become better writers. In addition to one-on-one tutoring services, the Writing Center also offers workshops every semester on a variety of writing topics. To make an appointment or to refer to the numerous online resources offered through the Writing Center, visit the [Writing Center website](#) at <http://www.sjsu.edu/writingcenter>. For additional resources and updated information, follow the Writing Center on Twitter and become a fan of the SJSU Writing Center on Facebook. (Note: You need to have a QR Reader to scan this code.)



SJSU Counseling & Psychological Services

The SJSU Counseling and Psychological Services is located on the corner of 7th Street and San Carlos in the new Student Wellness Center, Room 300B. Professional psychologists, social workers, and counselors are available to provide consultations on issues of student mental health, campus climate or psychological and academic issues on an individual, couple, or group basis. To schedule an appointment or learn more information, visit Counseling and Psychological Services website at <http://www.sjsu.edu/counseling>.

Geography 172: Cartography: Compilation & Presentation Spring 2016 Course Schedule

Schedule is subject to change with fair notice

Review Canvas Home Page at <https://sjsu.instructure.com/courses/1187702> for more information

Course Schedule

Week	Date	Topics & Assignments	Readings	Due
1	02/02	<i>Lecture:</i> Introduction & Overview <i>Lab:</i> Introduction to the laboratory; Exercise 1—Base map compilation	Ch. 1, Dent	
2	02/09	<i>Lecture:</i> Coordinate Systems & Map Projections <i>Lab:</i> Exercise 2—Map projections	Chs. 2 & 3, Dent	
3	02/16	<i>Lecture:</i> Geographic Data, Map Symbolization, & Data Classification <i>Lab:</i> Exercise 3—Choropleth maps	Chs. 4 & 5, Dent; Miller (1956)	Exer. 1
4	02/23	<i>Lecture:</i> Graphing <i>Lab:</i> Exercise 4—Climographs	Ch. 17, Dent	Exer. 2
5	03/01	<i>Lecture:</i> Point Symbolization <i>Lab:</i> Exercise 5—Choropleth maps revisited, part 1	Chs. 7 & 8, Dent	Project Proposal #1 Exer. 3
6	03/08	<i>Lecture:</i> Line Symbolization <i>Lab:</i>	Ch. 11, Dent	Exer. 4
7	03/15	<i>Lecture:</i> Polygon Symbolization <i>Lab:</i> Exercise 5—Choropleth maps revisited, part 2	Chs. 6 & 10, Dent	Exer. 5.1
8	03/22	<i>Lecture:</i> Surface Symbolization <i>Lab:</i> Exercise 6—Hypsometric maps	Ch. 9, Dent; Imhof (2007)	
9	03/29	SPRING BREAK		
10	04/05	<i>Lecture:</i> Map Design & Composition <i>Lab:</i> Exercise 7—Guide maps	Ch. 12, Dent	Exam 1 Exer. 5.2
11	04/12	<i>Lecture:</i> Typography & Color Theory <i>Lab:</i> Exercise 7 proof	Chs. 13 & 14, Dent	Exer. 6
12	04/19	<i>Lecture:</i> Persuasive Maps, Advertising, & Art <i>Lab:</i> Exercise 8—propaganda maps	Monmonier (1996)	Exer. 7
13	04/26	<i>Lecture:</i> Printing Technology & Web Mapping <i>Lab:</i>	Chs. 15 & 16, Dent	Project Proposal #2
14	05/03	<i>Lecture:</i> The Future of Cartography	MacEachren (1995);	Exer. 8

Week	Date	Topics & Assignments	Readings	Due
		<i>Lab:</i> Exercise 7 & 8 critique; Final project	Spence (2001); Wood (2001)	
15	05/10	<i>Lecture:</i> Wrap-up & Review <i>Lab:</i> Final Project		Exam 2
Final Exam	05/24	Project Presentations (WSQ 113) (1715 to 1930)		Project