

San José State University Department of Geography
Geog290: RESEARCH DESIGN for GEOGRAPHIC INFORMATION SCIENCE

Spring 2016

Classroom:	Washington Square Hall 111
Class Days/Time:	Monday, 6:00PM - 8:45PM
Instructor:	Gary M. Pereira
Email:	gary.pereira@sjsu.edu
Office Location:	Washington Square Hall 111
Office Hours:	Monday 2:00 - 5:00 and by appointment

Course Description

This seminar course provides an introduction to the topic of research in geographic information science and systems. Topics for discussion include: alternative processes for defining research problems; designing applied research projects; designing fundamental research problems; identifying appropriate methodologies for acquiring, organizing, and analyzing information; and presenting and disseminating research results.

Course Learning Outcomes

There are three learning outcomes for this course:

1. to share in a broad understanding of **current trends** in geographic information science and systems, including some of the following:
 - implications of user generated content (crowdsourcing)
 - geographic effects on and of social networks
 - geographic network representation and analysis
 - geographically-enabled agent based modeling
 - spatiotemporal structures and analysis
 - rapid, interactive experimentation (aka geodesign)
 - enterprise and national spatial information infrastructures
 - object-based data models for continuous data
 - the interaction between semantic and geographic search online
 - mobile mapping and location based services
 - human perception and formal modeling of evolving geographic patterns
 - implications and algorithms of mixed and augmented reality
 - predictive geospatial modeling
2. to recognize the characteristics of sound **geospatial project management** and to be capable of drawing on these characteristics in one's own work;
3. to recognize the characteristics of sound **geospatial research design** methodologies and to be capable of drawing on these in one's own work;

Required Readings

No specific readings are required. Any suggested readings, videos, etc. will either be independently available on the Internet or will be uploaded to Canvas.

Course Requirements and Assignments

The requirements for this course are straightforward. Early on each student shall offer a quick presentation, of 10 minutes or more, on an example of that student's current or previous work. Each student shall also generate a substantive report or poster, and a final presentation on that topic of approximately 10-15 minutes. Any topic listed above, or some example of sound geospatial project management or sound geospatial research may be chosen, at the instructor's discretion. The report or poster shall comprise 70% of the grade, and the presentation shall comprise 10% of the grade. Each student shall also attend the presentations of others and participate regularly in classroom discussions. These together shall comprise 10% of the grade.

Students shall submit early drafts in the course of the semester to determine whether the report or poster is 'substantive'.

In addition we shall discuss the use of the following professional websites for career enhancement:

Portfolio: <https://portfolium.com/>

ResearchGate: <https://www.researchgate.net/>

LinkedIn: <https://www.linkedin.com/>

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>.

Grading Policy

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.

initial presentation	10%
report or poster	70%
final presentation	10%
participation and discussion	10%
Total	100%

98% and above	A+
94% - 97%	A
93% - 90%	A-
89% - 87%	B+
86% - 84%	B
83% - 80%	B-
79% - 77%	C+
76% - 74%	C
73% - 70%	C-
69% - 67%	D+
66% - 64%	D
63% - 60%	D-
below 60%	F

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 arise. To learn important campus information, view [University Policy S90-5](http://www.sjsu.edu/senate/docs/S90-5.pdf) 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>. 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 address the issue, it is recommended that the student contact the Department Chair as the next step.

Dropping and Adding

Students are responsible for understanding the policies and procedures about add/drop, grade forgiveness, etc. 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), <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. 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 Jose State University. The [University Academic Integrity Policy S07-2](http://www.sjsu.edu/senate/docs/S07-2.pdf) 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](http://www.sjsu.edu/studentconduct/) 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](http://www.sjsu.edu/president/docs/directives/PD_1997-03.pdf) 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](http://www.sjsu.edu/aec) (AEC) at <http://www.sjsu.edu/aec> to establish a record of their disability.

Geog290 Spring 2016 Course Schedule

Please note that the course calendar is subject to change with fair notice, as announced in class and by email.

Week	Date	Topics, Assignments, Deadlines
1	2/1	research topics in geographic information science and systems
2	2/8	cancelled
3	2/15	geographic network representation and analysis
4	2/22	Geodesign, project management
5	2/29	quick presentations on current or previous work research design methodologies
6	3/7	submit topic for report or poster and final presentation research design methodologies, data mining
7	3/14	spatiotemporal structures and analysis
8	3/21	human perception and formal modeling of evolving geographic patterns
9	3/28	SPRING BREAK
11	4/4	geographically-enabled modeling and simulation
12	4/11	first draft of paper or poster is due. return to research design
13	4/18	social networks and user generated content (crowdsourcing)
14	4/25	ethics and intentionality
15	5/2	paper due on a topic in geographic information science and systems wrap-up discussion
16	5/9	presentations and discussion
17	5/16	presentations and discussion