

San José State University
Department of Environmental Studies
EnvS 200: Environmental Methods for Graduate Students
Spring 2016

Course and Contact Information

Instructor:	Lynne Trulio, Professor and Department Chair
Office Location:	WSQ 118
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Email:	Lynne.Trulio@sjsu.edu
Office Hours:	While I have office hours, I am available to see you at many times outside those hours. Let me know if you need to see me and we'll find a time that works for both of us.
Class Days/Time:	Tuesday 6:00-8:45pm
Classroom:	WSQ 115 Course Website: https://sites.google.com/a/sjsu.edu/envs-200-spring2016/

Course Description

The main focus of this course is to help you develop and write the methods section of your proposal. You should have completed or be in the process of completing EnvS 297, Thesis Proposal Writing, in which you refine a thesis topic and produce the research questions or hypotheses that you will study. In this course, you will explore the literature in your field to determine the types of methods available for collecting and analyzing data to address your research objectives. Ultimately, with the help of your thesis committee, you will determine the specific methods you will use for your research.

The methods that environmental scientists use to conduct their research are as varied as the questions themselves. Research topics among M.S. students in this department range from those in the social sciences to topics in natural science and engineering fields. Each discipline has typical research methods, but all fields are united by the following principles of good research design:

- Data/information must be collected by methods that meet the standards of the field;
- Methods must be repeatable;
- Limitations of the methods must be clear;
- Confidence levels of the data/information must be clear; and
- Data and analysis must withstand peer review.

The research questions/hypothesis and the methods used to address them are the most essential parts of your thesis; these are the elements that are critical in obtaining funding. Many

government agencies, non-profits, and businesses provide grants for projects. A competitive grant proposal has clearly defined research questions that address important gaps in current knowledge with methods designed to address those questions. By completing your methods section, you will be positioned to seek funding, finish forming your thesis committee, complete your proposal, and begin your research.

Course Learning Outcomes (CLO)

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

- 1) Review the literature and evaluate appropriate research methods.
- 2) Explain a range of methods used in your thesis research field.
- 3) Develop a valid research design appropriate to your research topic.
- 4) Formulate the appropriate analytical framework (statistical, qualitative, or both) to analyze data for your thesis question, and
- 5) Understand the limitations of your thesis research methods.

Required Texts/Readings

Bhattacharjee, Anol. 2012. *Social Science Research: Principles, Methods, and Practices*, 2nd edition. Published under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License (**Available on the class website**)

Creswell, John. 2014. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 4th edition. Sage Publications. ISBN: 9781452226101 (**Available online at outlets such as Amazon.com**)

Additional readings and other content will be assigned throughout the course. You will need a valid SJSU library account to access SJSU databases, ebooks, and other materials needed for your research.

Library Liaison

The MLK Library Liaison for our department is Peggy Cabrera (peggy.cabrera@sjsu.edu). She is wonderful and very knowledgeable. However, your first stop, if you need direction on literature will be your EnvS thesis chair.

Course Requirements and Assignments

This course is a seminar. You must complete research and reading for each class. All students will present their work to the class. Always be prepared to discuss your current work. Be prepared to spend time in the library and at your computer. Assignments must be provided in **hardcopy at the beginning of class** on the day they are due.

You will produce several important ‘deliverables’ for this course. First, you will conduct and write a **literature review** of methods used to conduct research in your thesis topic field. This review will provide you and the class with an understanding of the range of methods available. Based on your research, you will develop **draft and final methods plans** that detail the methodology you would most likely use to address your research questions/hypotheses. You will make two **presentations** on your work. At the end of the semester, you can put your

methods section into your proposal from ES 297, so that you will have a complete draft thesis proposal.

In addition, as part of this course you will put your knowledge of environmental methods--or at least how to find out about appropriate methods--to work helping several EnvS seniors who are taking EnvS 198, Senior Seminar. Students in that course must develop and implement a one-semester research project. As part of that project, the students must develop methods to collect and analyze data. You will be assigned several students and will **meet at least twice** with them to mentor them on appropriate methods for their projects. I will provide a **summary form** that you will fill out describing your experience with each student.

Communication

I encourage you to come and see me at least once over the course of the semester to discuss your research. My office hours are often full, so please see me by special appointment. I am also available by e-mail if you have questions I can answer briefly. But, please note, you will receive the best feedback from me in a 30-minute face-to-face appointment.

Late Assignments

Due to the high level of instructor-student feedback provided in this course and the progressive nature of class assignments, it is crucial that you complete your assignments on time. Late work throws everyone off schedule. All assignments, unless otherwise noted, are due at the *beginning* of class on the date specified in the Class Schedule. Please see me if anything is going awry in your life that may cause you not to turn in a paper on time. Points for in-class assignments cannot be made up.

Grading Policy

Grades for ENV5 200 are based on the following point system:

Journal article facilitation & class discussion	10 points
Literature Review	10 points
Draft Research Questions/Hypotheses	5 points
Draft Study System	5 points
Draft Research Design	10 points
Draft Analysis Methods	5 points
Research Design Oral Presentation	5 points
Final Methods Oral Presentation	10 points
Final Methods Paper (must be signed off by thesis chair)	25 points
Undergraduate Senior Mentorship	15 points

TOTAL

100 points

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) at <http://www.sjsu.edu/senate/docs/F13-1.pdf> for more details.

Grading

Students who miss more than two class meetings are ineligible to receive an A or A- in the course.

98-up = A+	88-89 = B+	78-79 = C+	58-69 = D
93-96 = A	86-83 = B	73-76 = C	57-below = F
90-92 = A-	80-82 = B-	70-72 = C-	

University Policies

Workload and Attendance

As per University Policy S12-3, 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 <http://www.sjsu.edu/senate/docs/S12-3.pdf>.

[University policy F69-24](http://www.sjsu.edu/senate/docs/F69-24.pdf) at <http://www.sjsu.edu/senate/docs/F69-24.pdf> states, “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.”

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. 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.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 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](#) at http://www.sjsu.edu/provost/services/academic_calendars/. The [Late Drop 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](#) 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 and the following items to be included in the syllabus:

- “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.”
 - It is suggested that the greensheet include the instructor's process for granting permission, whether in writing or orally and whether for the whole semester or on a class by class basis.
 - In classes where active participation of students or guests may be 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 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.

EnvS 200: Environmental Methods for Graduate Students (Sp 2016)

Course Schedule (subject to change)

Week	Date	Topics	Assignments & Readings
1	Feb 2	Introduction to Graduate Research and Research in EnvS Research Process and Approaches	Discuss your research topics in class <u>Readings:</u> AB Text, Ch. 1- 3
2	Feb 9	Qualitative and Quantitative Research Questions and/or Hypotheses Research Design - Introduction and Measurement	Draft Journal Articles list Due <u>Readings:</u> AB Text, pg. 45-49; Creswell, Chapter 1, 7
3	Feb 16	Research Design - Measurement & Sampling Literature Review	Draft Research Questions and/or Hypotheses Due <i>Receive RQs/Ho from 198 students</i> <u>Readings:</u> AB Text, pg. 55-61, 65-72; Creswell, Chapter 2
4	Feb 23	Basic Principles of Quantitative Research Design	Literature Review Due <i>Meet with 198 students to discuss methods</i> <u>Readings:</u> Creswell, Chapter 8; AB Text, Ch. 10; Hurlbert, 1984
5	Mar 1	Basic Principles of Qualitative Research Design Special Topic: Guest Speaker Journal Article Discussion	Student Journal Articles Draft Study System Due <i>Receive draft methods from 198 students</i> <u>Readings:</u> Creswell, Chapter 9; AB Text, 49-54, TBA
6	Mar 8	Data Collection Methods: Natural Sciences Research Ethics Journal Article Discussion	Student Journal Articles <i>Comment on 198 student methods</i> <u>Readings:</u> AB Text, Ch. 16
7	Mar 15	Data Collection Methods: Social Sciences Journal Article Discussion Student Mentoring Experience	Student Journal Articles <u>Readings:</u> AB Text, TBA
8	Mar 22	Research Design Presentations	Draft Research Design Due
9	Mar 29	Spring Break!	
10	Apr 5	Statistical and Other Analytical Methods	<u>Readings:</u> AB Text, Ch. 13 and 14
11	Apr 12	Statistical Methods, con't Journal Article Discussion	<i>Check in with 198 students</i> <u>Readings:</u> AB Text, Ch. 15

Week	Date	Topics	Assignments & Readings
12	Apr 19	Special Topic: Guest Lecture Journal Article Discussion	Draft Analytical Methods Due <i>Check in with 198 students</i>
13	Apr 26	Student Mentoring Experience Journal Article Discussion	Student Journal Articles
14	May 3	Budget/CV/Timeline From Proposal to Thesis Journal Article Discussion	Student Journal Articles
15	May 10	Student Presentations	Final Methods Section Due
Final		Student Presentations	