

San José State University
Department of Psychology
PSYC 118-20, 21, 22
Advanced Research Methods, Fall 2026

Course and Contact Information

Instructor: Sisi Dong
Office Location: DMH 230
Telephone: TBD
Email: sisi.dong@sjsu.edu
Office Hours: Mon Wed 9:30 - 10:30 pm
Class Days/Time: Lecture PSYC 118 - 20: Mon Wed 1:30 – 2:20 pm
Lab PSYC 118 - 21: Mon 3:00 - 5:00 pm
Lab PSYC 118 - 22: Wed 3:00 - 5:00 pm
Classroom: Lecture: DMH358
Lab: DMH236

Prerequisites: lower division GE complete; PSYC 1; STAT 95; PSYC 100W with 'C' or better (or department approval); Upper Division; Psychology or Behavioral Science Major

Course Description

Descriptive, correlational, quasi-experimental, and experimental approaches: design, methodology, and analysis. Experience designing, conducting, analyzing, and presenting (verbal and written) research findings. Topics will include, hypothesis testing, validity, reliability, scales of measurement, questionnaire development, power, statistical significance, and effect size.

Course Format

This is an in-person course. You are expected to attend the lecture and the lab session in person.

CANVAS and MYSJSU Messaging

Copies of some course materials such as the syllabus, major assignment handouts, etc. may be found on Canvas. Messages to the class may be sent through Canvas or MYSJSU.

Course Learning Outcomes (CLO)

Upon successful completion of this course:

- CLO1 – Students will be able to design, implement, and communicate basic research methods in psychology, including research design, data analysis, and interpretations.
- CLO2 – Students will be able to use critical and creative thinking, skeptical inquiry, and a scientific approach to address issues related to behavior and mental processes.

- CLO3 – Students will value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as a member of society.

Upon successful completion of the SJSU baccalaureate degree program in Psychology:

- *PLO1 – Knowledge Base of Psychology* – Students will be able to identify, describe, and communicate the major concepts, theoretical perspectives, empirical findings, and historical trends in psychology
- *PLO2 – Research Methods in Psychology* – Students will be able to design, implement, and communicate basic research methods in psychology, including research design, data analysis, and interpretations.
- *PLO3 – Critical Thinking Skills in Psychology* – Students will be able to use critical and creative thinking, skeptical inquiry, and a scientific approach to address issues related to behavior and mental processes.
- *PLO4 – Application of Psychology* – Students will be able to apply psychological principles to individual, interpersonal, group, and societal issues.
- *PLO5 – Values in Psychology* – Students will value empirical evidence, tolerate ambiguity, act ethically, and recognize their role and responsibility as a member of society.

The learning goals for this course fall into four categories that follow the construction of a research report. Learning outcomes for the first part of the course describes how the psychological sciences seek to gain knowledge about behavior and mental processes by running experiments and other types of studies. The second category will cover how scientific methods are used in psychological research. The third category will cover why statistics are important and needed in psychological research, choosing the appropriate statistical analyses, and interpret the results. The final goal is to apply our learning by carrying out a planned research experiment with a full research report and presentation.

Textbook

Bhattacharjee, A. (2012). *Social science research: Principles, methods, and practices*. (A free open educational resource available online in pdf: https://digitalcommons.usf.edu/oa_textbooks/3/)

American Psychological Association. (2009). *Publication manual of the American Psychological Association* (7th Ed.). Washington, DC: American Psychological Association. ISBN: 1433805618

Recommended Reading

Cozby, P.C., & Bates, S. (2020). *Methods in behavioral research*, 15th edition, McGraw Hill education. ISBN 9781260205589

Course Requirements and Major Assignments

Students are expected to attend all meetings for the courses in which they are enrolled as they are responsible for the material discussed therein, and active participation is frequently essential to ensure maximum benefit to all class members. Lab attendance is critical to the successful completion of this course. We will be using Excel and SPSS, available to all SJSU students, for data management and analysis.

Each laboratory assignment is designed to prepare you to successfully complete your research proposal, study, and report write-up. Lab work is graded as complete or incomplete, failure to participate in each step will interfere with your ability to complete the research project. Team participation in lab work is required. If you do not contribute to the project in a substantive way, you are taking advantage of others (hanger-on, cadger, freeloader, moocher, lounge lizard, etc.) Participation will be assessed by group evaluations at the end of the semester. Research group evaluations influence your course grade up to a full letter grade. If you know that you will be unable to consistently attend your scheduled laboratory section, do NOT take this class.

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 three hours per unit per week) for instruction, preparation/studying, or course related activities, including but not limited to internships, labs, and clinical practica. Other course structures will have equivalent workload expectations as described in the syllabus.

Midterm Milestone: Research Proposal (12 points)

The Midterm Milestone is a research proposal that serves as the foundation for your final group research project. The purpose of this assignment is to demonstrate that your group has identified a meaningful research question, reviewed the relevant literature, and developed a feasible research plan. Your proposal should include three sections: Introduction, Literature Review, and Methods. The proposal is worth 10 points.

To encourage reflection and improve the quality of your work, each group is expected to complete a self-evaluation before submitting the proposal. Copy and paste the project rubric at the end of your proposal, rate your group's current work using the rubric. Completing this self-assessment is worth 0.5 bonus point.

Following submission, each group will be assigned two other proposals to review. Each peer review should provide constructive, specific, and respectful feedback on the strengths of the proposal and areas for improvement. Each completed peer review is worth 1 point, for a total of 2 points. Thoughtful participation in the peer review process is expected, as the feedback you provide and receive will help strengthen your final research project.

Final Research Project (20 point)

Your research team will develop an original research hypothesis guided by parameters set by the instructor. Project work will take place during lab, lecture, and outside of class time.

Each research group will submit a full research proposal, collect and analyze their group data, write a professional level APA-style research report and give a quality presentation of your research findings in class. The paper will be a **minimum of 8 pages** in length (not including references, double-spaced, typed, 12-point font) and include a minimum of **6+ peer-reviewed, scholarly references**. Each group will need to decide how to divide the writing of the proposal, recruitment, and data collection (along with deciding how to divide all of the other responsibilities involved in completing the project). The research proposal is a shared project.

Plagiarism of any kind will not be tolerated. Please refer to the section on Academic Integrity for information about the consequences of plagiarism. You must cite all the sources that your information comes from and also use quotations when you are directly quoting information from a source.

You, or your research team will present a short slideshow outlining your project and findings. Clear instructions are provided on Canvas. Each student is responsible for submitting their own presentation slideshow. Late reports will not be accepted.

Final Presentation (10 point)

Each research group will deliver an oral presentation summarizing their final research project. The purpose of the presentation is to communicate your research question, theoretical background, methods, results, and conclusions in a clear and professional manner while demonstrating your understanding of the research process. Presentations should be supported by a well-organized slideshow that highlights the key aspects of the project without simply reading the written report. Additional presentation requirements, including time limits and formatting expectations, will be provided on Canvas. Each student is responsible for submitting their own copy of the presentation slideshow on Canvas.

The presentation is intended to serve as an opportunity for constructive feedback before the final paper is submitted. Following each presentation, both the instructor and classmates will provide feedback on the strengths of the project as well as suggestions for improvement. Research teams are expected to carefully consider this feedback and use it to revise and strengthen their final APA-style research paper before the final submission.

Final Exam

Every student needs to complete the final exam through Canvas on time.

“Faculty members are required to have a culminating activity for their courses, which can include a final examination, a final research paper or project, a final creative work or performance, a final portfolio of work, or other appropriate assignment.”

Grading Information

Quiz: $5 * 2 \text{ points} = 10 \text{ points}$

(Lab) Individual Activity: $5 * 1 \text{ point} = 5 \text{ points}$

(Lab) Group Activity: $3 * 5 \text{ points} = 15 \text{ points}$

(Lab) SPSS Activity: $3 * 4 \text{ points} = 12 \text{ points}$

Paper Reading Practice: $2 * 1 \text{ points} = 1 \text{ points} + 1 \text{ point (bonus)}$

Midterm Milestone: $1 * 12 \text{ points} = 12 \text{ points}$

Presentation: $1 * 10 \text{ points} = 10 \text{ points}$

Final Paper: $1 * 25 \text{ points} = 25 \text{ points}$

Final Exam: $1 * 10 \text{ points} = 10 \text{ points}$

Determination of Grades

A = 93 to 100 points

A minus = 90 to 92.9 points

B plus = 87 to 89.9 points

B = 83 to 86.9 points

B minus = 80 to 82.9 points

C plus = 77 to 79.9 points

C = 73 to 76.9 points

C minus = 67 to 72.9 points

D = 60 to 66.9 points

F = 59.9 points or lower

PSYC 118 Advanced Research Methods

Fall 2026 Course Schedule

The schedule is subject to change with notice.

	Meeting Type		Topics, Readings	Textbook Readings	Assignment
Week 1 8.19	Lecture	W	Introduction, Syllabus & Calendar		
	Lab		N/A		
Week 2 8.24 – 8.28	Lecture	M	Introduction to Behavioral Research	Chapter 1: Introduction to Research Chapter 2: Thinking Like a Researcher	
	Lecture	W	Research Questions, Hypothesis		
	Lab		Individual Activity 1: RQ brainstorming, and possible literature Library Reference		
Week 3 8.31 – 9.4	Lecture	M	Research Fundamental	Chapter 3: The Research Process Chapter 16: Research Ethics	Quiz #1
	Lecture	W	Ethics in Behavioral Research		
	Lab		Individual Activity 2: Ethical consideration		
Week 4 9.7 – 9.11	Lecture	M	Labor Day - No class	Chapter 6: Measurement of Construct	
	Lecture	W	Measurement and Sampling I		
	Lab		Individual Activity 3: Possible Measure for your RQ		
Week 5 9.14 – 9.18	Lecture	M	Measurement and Sampling II	Chapter 8: Sampling Chapter 13: Qualitative Analysis	Quiz #2
	Lecture	W	Qualitative Research		
	Lab		Individual Activity 4: Coding qualitative data activities		
Week 6 9.21 – 9.25	Lecture	M	Observational Studies	Chapter 9: Survey Research	GA1 submission
	Lecture	W	Survey		
	Lab		Group Activity 1: Survey Activity		
Week 7 9.28 – 10.2	Lecture	M	Correlational Research	Chapter 10: Experimental Research	GA2 submission
	Lecture	W	Experimental Design		
	Lab		Group Activity 2: Research Question and Design matching.		
Week 8	Lecture	M	Conducting Experiments	Chapter 5: Research Design	Quiz #3
	Lecture	W	Complex Experimental Design		

10.5 – 10.9	Lab		Individual Activity 5: what is your project design?		Midterm Proposal
Week 9 10.12 – 10.16	Lecture	M	Single-Case, Quasi-Experimental, and Developmental Research	Chapter 11: Case Research Chapter 7: Scale Reliability and Validity	GA3 submission
	Lecture	W	Reliability and Validity		
	Lab		Group Activity 3: Article validity critique		
Week 10 10.19 – 10.23	Lecture		Understanding Results: Description and Correlation		SPSS Output 1
	Lab		SPSS: descriptive and correlation		
Week 11 10.26 – 10.30	Lecture		Understanding Results: Inferential		Quiz #4 SPSS Output 2
	Lab		SPSS: T test, ANOVA		
Week 12 11.2 – 11.6	Lecture		Understanding Results: more		SPSS Practice
	Lab		SPSS: Linear Regression		
Week 13 11.9	Lecture		Presentation		Quiz #5
	Lab		Presentation/Open lab Q&A		
Week 14 11.16 – 11.20	Lecture		Presentation		
	Lab		Presentation/Open lab Q&A		
Week 15 11.23 – 11.27	Happy Thanksgiving! – No Class				
Week 16 11.30 – 12.4	Lecture		Presentation		
	Lab		Presentation/Open lab Q&A		
Final Week 12.7 – 12.11	Lecture	M	Final Exam (Zoom)		Final Project
	Lab				