COUGARS

Syllabus for Course PSYC-221-D01
Research Design & Statistics I – Online
Department of Psychology
Fall 2023
Mon Oct 16th to Fri Dec 8th

About the Instructor

Name: Dr. Jason Finley
Phone: 949-433-4216
Email: jafinle@siue.edu
Office Hours:
Tuesdays 5-6:30pm on MS Teams
Thursdays 2-4pm in Alumni Hall 0130 & on MS Teams

Graduate Teaching Assistant
Name: Parker Kent
Email: pkent@siue.edu
Office Hours:
Mondays 5:30-7pm on MS Teams
Fridays 12:30-2pm on MS Teams

Welcome

Psychology is the science of mind and behavior. Science is a way of knowing. In these two courses (PSYC220 & 221), you will learn how psychological science is done. You will be able to: read, understand, and critically evaluate published research; generate empirically testable hypotheses; design a research study and collect data; select and calculate appropriate statistics (e.g., using SPSS); understand the major concepts of statistics; analyze and interpret data; effectively communicate research results to your peers; and write a research paper in APA style. In short, you will learn how to do science! You'll also be able to think critically about research that you read.

What about the statistics part? Statistics is a way to make meaning out of numbers. Doesn't that sound awesome? It is; you'll see. My goal is to help you understand the major concepts of statistics. I focus on concepts over calculation. We do use some math in statistics, but you will only need basic math skills (high school algebra), and I am happy to help you refresh any skills as needed (see also Appendix A in the textbook). Many students feel anxiety about math. Don't panic; it will be okay. You won't have to memorize formulas or do mental arithmetic.

This accelerated course will require sustained dedication, time, and effort. THIS COURSE SHOULD BE YOUR HIGHEST PRIORITY. It is an essential course of the psychology major, and at the heart of psychology as a science. It is NOT intuitive, and not something you can just half-ass. This version of the course is CONDENSED so it moves FAST. It's 16 weeks crammed down into 8 weeks. DON'T PROCRASTINATE. ***The number one reason students don't pass this class is falling behind and not turning everything in.*** But if you stay on top of everything each week, put in the time and effort, and take advantage of help from me and our graduate teaching assistant, you can do this.

Bio

I am a cognitive psychologist and sentient assemblage of matter residing on planet Earth. I received my Ph.D. from the University of Illinois at Urbana–Champaign in 2012, worked as a postdoctoral researcher at Washington University in St. Louis, and taught at Fontbonne University before joining SIUE. I conduct research on memory, metacognition, and the interplay of technology and the human mind. I am a proud advocate for the queer/LGBTQIA community. A native of southern California (bachelor's degree from UCLA), I enjoy birdwatching and video games.

Teaching Philosophy
My goal is to spark a sense of wonder in students, and to equip them with the skills to think better and become better people.

Communicating with the instructor
If you have questions, the best way to get in touch with me is MS Teams. Please post in the "HELP" channel unless your question is personal or very specific to you, in which case you can direct message me on Teams. Email is also an option, but I get a deluge of those everyday so I'm more likely to miss an email. I will do my best to respond within 24 hours on weekdays. Please address me as Dr. Finley, Professor Finley, or Prof. Finley.

About the Course

Course description
Methods for designing psychological studies and the statistics used to analyze and interpret the data. Focus on non-experimental methods.

Prerequisite knowledge and credit hours
- psychology major
- PSYC 111 (minimum grade of C)
- PSYC220 (minimum grade of C)
- college level reading ability
- computer competency
- math competency: arithmetic, algebra

Course goals and objectives
1. Describe and distinguish among various research methods
2. Explain the role of statistics in psychological research
3. Discover, read, and evaluate published research
4. Design and conduct research studies
5. Analyze & interpret data using descriptive & inferential statistics
6. Write a research paper in APA style

Course textbooks
Gravetter, F. J. & Forzano, L. B. (2018). *Research methods for the behavioral sciences* (6th ed.). Belmont, CA: Cengage.

Gravetter, F. J., Wallnau, L. B., Forzano, L. B., & Witnauer, J. E. (2018). *Essentials of statistics for the behavioral sciences* (10th ed.). Cengage.

Undergraduate students can rent textbooks from SIUE. Please visit the Textbook Service website for more information. For off-campus classes, the textbook may be shipped to you. Look for the option "Off-Campus Classes have special instructions, click here for these." Note: shipping time may take up to two weeks.

Other course materials
- **Blackboard**: https://bb.siue.edu
  - Assignments
  - Other resources
- **Microsoft Teams**: via link on Blackboard. I recommend downloading and installing the app on your computer.
  - Ask questions here
  - Work on group projects
  - Office hours
- **SPSS** statistical software: download and install: https://www.siue.edu/its/labsclassrooms/vlab/spss.shtml
- **Microsoft Office**: download and install: https://www.siue.edu/its/office365/install.shtml
- **Qualtrics**: we'll use for running surveys and experiments: https://siue.qualtrics.com/

- **YouTube**: lecture playlist: https://www.youtube.com/playlist?list=PLeqON3UbIhzXod2PqIiRxJCjw_W8tPZbK
    - Instructional material created by the professor is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International license (CC BY-NC-SA 4.0). Meaning that you can share and adapt the material as long as you give credit and it is for non-commercial purposes. Content created by third parties (e.g., movies, textbooks) is covered by its own copyright licenses.

Course Requirements

Course activities/assessments

- **Video Lectures & Worksheets**: There will be two video lectures per week that cover the main content of the course, and a worksheet that goes along with each lecture. Worksheets are due by 11:59pm on Sunday at the end of the week. There are 16 lectures & worksheets total.
- **Lab Worksheets**: These weekly worksheets are more focused on developing and practicing skills. Worksheets are due by 11:59pm on Sunday at the end of the week. There is one per week, except Weeks 9 and 16, thus there are 6 total.
- **Weekly Comprehension Checks**: These are multiple choice questions based on the book chapter readings for that week. There will be 10 questions (5 from each chapter), drawn randomly from a question pool. The due date is Sunday 11:59pm at the end of the week. Before the deadline, you have unlimited time and an unlimited number of attempts. Each attempt will consist of another random drawing of questions. Your score each week will be the highest of all your attempts for that week. You may use your books and notes for the comprehension checks, but do not search the internet for answers, and do not work with anyone else.
- **Group Research Project**: You will be randomly assigned to a group of approximately 4-5 students. You will work with your group to design and conduct an experimental study. You will be given a group channel on MS Teams to facilitate working together. The project will be completed in stages with due dates throughout the 8 week course as you create an APA style paper. Drafts will be submitted on Blackboard, which can automatically detect plagiarism.
  Group vs. individual evaluation: There are three times you will be graded as a group: (1) the project proposal, (2) getting your experiment posted online and ready to run on time, and (3) the final group presentation. On all three of these, everyone in the group will receive the same score. For all the other project components you will complete your own individual version and receive your own individual score.
- **Final Exam:** The final exam will be cumulative, with a 4-hour time limit, and only one attempt allowed. It will be available on Blackboard for 48 hours and due by 11:59pm on the Friday of Week 16.
- **Post-course questionnaire**: A self-report questionnaire to measure knowledge of research methods and statistics. Full credit just for completing it. A similar pre-course questionnaire was done at the start of PSYC220. The department looks at the change in scores from pre-course to post-course as a measure of learning.
- **Hypothetical Extra Credit:** I reserve the right to *potentially* offer bonus assignments for extra credit. Any such assignments would be *equally available to all students*.

Submitting work

All work will be submitted via Blackboard. For writing assignments, be sure to upload a Microsoft Word document when specified (not a PDF or Google doc or any other format). We will be using tracked changes and comments in Word documents to give you feedback for your research papers.

Technology requirements

- A reliably working **computer** that runs Windows or Mac OS. Tablets and smart phones might work for some things in this course, but we can't guarantee they will work for everything. Chromebook laptops are also problematic, especially for using SPSS. If you do not have a working computer that runs Windows or Mac OS, contact Information Technology Services about borrowing a laptop from the university. There are also computers for student use in the Library.
- Reliable internet access on a regular basis.

Technology capabilities

Students in an online course should be able to:

- Use a word processor, such as MS Word, to compose assignments, and be able to use tracked changes and comments from your instructor
- Use a slide presentation program such as MS PowerPoint
- Attach files to emails and upload them to Blackboard
- Give files meaningful names, and store them in meaningful folder structures on your computer
- Navigate websites and course materials
- Reach out to tech support staff when issues arise and troubleshoot to resolve problems

Additional guidance for taking online courses can be found on the Online at SIUE site.

Course Policies and University Policies

Academic integrity/plagiarism

The expectations and academic standards outlined in the Student Academic Code (3C2) apply to all courses, field experiences and educational experiences at the University, regardless of modality or location.

Plagiarism is the use of another person's words or ideas without crediting that person. Plagiarism and cheating will not be tolerated and may lead to failure on an assignment, in the class, or dismissal from the University, per the SIUE academic dishonesty policy. Students are responsible for complying with University policies about academic honesty as stated in the University's Student Academic Conduct Code.

- We will cover how to properly read and cite sources in class. You are responsible for understanding what plagiarism is; if you have any questions at all, you should discuss them with the professor or your TA BEFORE you turn in a plagiarized paper. A lack of knowledge of appropriate citation and referencing format will not excuse you from point deductions from written assignments or disciplinary action in the case of plagiarism.

Unless expressly allowed by the instructor, the use of artificial intelligence (AI) tools and applications (including ChatGPT, DALL-E, and others) to produce content for course assignments and assessments is a violation of SIUE's academic policy and is prohibited.

We have ways of detecting plagiarism and use of AI, so don't do it!

Psychology Department writing policy

As a student in this course, you will be expected to display university-level writing, which includes completing course assignments that meet the following basic writing criteria. Specifically, all written assignments completed for this course should include:

- clear transitions from sentence to sentence and idea to idea (i.e., paper is organized/flows well);
- verb tense consistency;
- clear and unambiguous sentences and ideas;
- writing that is free of typos, spelling errors, and major grammatical errors;
- properly formatted citations and references (if relevant).

This is by no means an exhaustive list of basic writing skills, but will give you an idea of what we are looking for in our papers. If you feel you need help with your writing, you are encouraged to seek assistance from the writing center on campus or utilize one of the many online resources they have identified to help students. If your graded written assignments fail to meet the basic writing requirements listed above (and any others found to be appropriate by your instructor), the instructor will stop the grading process and return the paper to you with the grade of 0. You will have 48 hours to return the assignment in an acceptable form; if it still fails to meet the basic writing criteria, the grade of 0 will remain.

Grading

Your grade in this course will be based on:

Asynch Lecture Worksheets 16 worth 18 points each	288
Synch Lab Worksheets 6 worth 25 points each	150
Weekly Comprehension Checks 7 worth 25 points each	175
Group Research Project Project Lit Review & Ideas: 20 Project Proposal [group]: 20 Draft 1 (intro): 20 Exps. Posted Online [group]: 10 Draft 2 (+method): 20 Draft 3 (+results): 20 Draft 4 (final paper): 24 Final Group Presentation [group]: 20 Peer evaluation: 20	174
Final exam	200
Post-Course Questionnaire	13
Total:	1000

Grading scale

Final letter grades will be based strictly on the following scale:

895	≤	A	≤	1000
795	≤	B	<	895
695	≤	C	<	795
595	≤	D	<	695
0	≤	F	<	595

Note that 925 points is 92.5%, and so on. Fractional points will be handled as follows: a final score of 800.50 would be rounded up to 801, and a final score of 800.49 would be rounded down to 800.

Grading rubrics

The scoring of each assignment is explained on Blackboard along with the assignment instructions.

Feedback and grading timeline

We will endeavor to grade and provide feedback within 1 week of submission. For written assignments using Microsoft Word, we will return a Word document to you with comments and tracked changes. You can find your graded work by clicking the My Grades link on the left menu of the Blackboard course.

Late or Missed Assignments

You can turn in 2 things up to 1 week late without penalty. After that, all late work will earn half credit up until the end of Friday of week 16.

Regular and Substantive Interaction

Regular and substantive interaction (RSI) is required as part of new U.S. Department of Education regulations for distance (online) education and it supports student learning in all learning environments (online, face-to-face, hybrid, hyflex, etc.). SIUE faculty participate in RSI by initiating frequent and timely opportunities to engage with students. Because there are several ways to implement RSI, such as facilitating online discussions, scheduling a Zoom conference with a student, or holding regularly scheduled review sessions before tests, RSI may look different in every class. To learn more about RSI, use the Online Tips links for Faculty and Students in your Blackboard course websites or visit the Faculty Resources for Regular and Substantive Interaction webpage.

Recordings of Class Content

Faculty recordings of lectures and/or other course materials are meant to facilitate student learning and to help facilitate a student catching up who has missed class due to illness or quarantine. As such, students are reminded that the recording, as well as replicating or sharing of any course content and/or course materials without the express permission of the instructor of record, is not permitted, and may be considered a violation of the University's Student Conduct Code (3C1), linked here: https://www.siue.edu/policies/3c1.shtml.

Diversity and Inclusion

SIUE is committed to respecting everyone's dignity at all times. In order to learn, exchange ideas, and support one another, our virtual and physical classrooms must be places where students and teachers feel safe and supported. Systems of oppression permeate our institutions and our classrooms. All students and faculty have the responsibility to co-create a classroom that affirms inclusion, equity, and social justice, where racism, sexism, classism, ableism, heterosexism, xenophobia, and other social pathologies are not tolerated. Violations of this policy will be enforced in line with the SIUE Student Conduct Code.

The Hub https://www.siue.edu/csdi is an excellent resource for students for support and community. Any person who believes they have experienced or witnessed discrimination or harassment can contact Ms. Jamie Ball, Director in the Office of Equal Opportunity, Access and Title IX Coordination at (618) 650-2333 or jball@siue.edu. There is also an online form for reporting bias incidents at https://cm.maxient.com/reportingform.php?SIUEdwardsville&layout_id=10.

Pregnancy and Newly Parenting Policy

This policy and procedure are established to ensure the protection and equal treatment of pregnant students, students with pregnancy-related medical conditions including as a result of the termination of pregnancy, and students who become new parents including parents adopting or fostering to adopt for the first 12 weeks a child is in the home, in accordance with Federal and State guidelines and regulations. "New Parents" refers to a parent who has recently welcomed a newborn or adopted a child or is fostering to adopt a child and needs support to mitigate the disruption in academic progress within the first 12 weeks of parenting or a parent that needs support due to medical necessity attributed to pregnancy or delivery of a child; care of newborn; or lactation within the first year of child's life or legal adoption/fostering. Visit Policies & Procedures - Student Rights and Conduct - Newly Parenting Policy - 3C15 to view the full policy and learn how to request accommodations through the Office of Equal Opportunity, Access, and Title IX Coordination (EOA).

Technology Privacy Information

We will be using Blackboard in this course. View the Anthology Blackboard Privacy Statement to review how your data is being used and stored.

Additional Support

Services for Students Needing Accommodations

It is the policy and practice of Southern Illinois University Edwardsville to create inclusive learning environments. If there are aspects of the instruction or design of this course that result in barriers to your inclusion or to accurate assessment of achievement—such as time-limited exams, inaccessible web content or the use of non-captioned videos—please contact Accessible Campus Community and Equitable Student Support (ACCESS) as soon as possible. In order to properly determine reasonable accommodations, students must register with ACCESS either online at siue.edu/access or in person in the Student Success Center, Room 1203. You can also reach the office by emailing us at myaccess@siue.edu or by calling 618-650-3726.

If you feel you would need additional help in the event of an emergency situation, please notify your instructor to be shown the evacuation route and discuss specific needs for assistance.

Academic and Other Student Services

As an enrolled SIUE student, you have a variety of support available to you, including:

- Lovejoy Library Resources
- Academic Success Sessions
- Tutoring Resource Center
- The Writing Center
- Academic Advising
- Financial Aid
- Campus Events
- Counseling Services

If you find that you need additional support, please reach out to me and let me know.

Cougar Care

Dealing with the fast-paced life of a college student can be challenging, and I always support a student's decisions to prioritize mental health. Students have access to counseling services on campus (Student Success Center, 0222). Make an appointment by visiting cougarcare.siue.edu or by calling 618-650-2842.

Student Success Coaches

Student success coaches work across campus to serve the SIUE student population with the tools and resources to adjust to and meet the demands of the college experience. Success coaches provide direct services such as time management support and referrals to campus resources. If you find yourself in need of academic or personal support, or in a situation that is preventing you from being successful in the classroom, please utilize Starfish to connect with a coach as soon as possible. The sooner you engage, the sooner you can access the information or tools you need that may help you get back on track.

Technical Support

Since this is an online course, you are expected to have reliable Internet access on a regular basis. It is your responsibility to address any computer problems that might occur. Such problems are not an excuse for delays in meeting expectations or for missing course deadlines.

Contact ITS at 618-650-5500 or at help@siue.edu with any technical concerns. You can also check the functionality of University systems, including Blackboard, at the ITS System Status page, or search the ITS Knowledge Base for various how-to and troubleshooting guides.

Tips for taking online assessments:

- Set up a wired (Ethernet) Internet connection on your computer
- Do not use a mobile device, such as a phone or tablet
- Read the instructions and directions carefully

- Be prepared to complete the assessment in the allotted time

Subject to change notice

All material, assignments, and deadlines are subject to change with prior notice. It is your responsibility to stay in touch with your instructor, review the course site regularly, or communicate with other students, to adjust as needed if assignments or due dates change.

Course Schedule:

Week	Learning Activities	Assignments	Due Dates All due at 11:59 pm CST
Week 9 Sampling distribution of the mean, Hypothesis testing with the z-test	• Read Statistics Chapters 7 and 8 • View two Week 9 lecture videos and accompanying PowerPoint files, do the ACTIVITY (sampling distribution) • Watch video on inclusive demographics	• Comprehension check based on the readings • Lecture worksheets • [no lab this week]	Sunday Oct 22, 2023
Week 10 t-test, and Experiments	• Read Statistics Chapter 9, Research Methods Chapter 6 pp. 147-154 and Chapter 7 • View two Week 10 lecture videos and accompanying PowerPoint files, do the ACTIVITY (reading experiment) • View resources and prep for Lab 10 • Read seed article assigned to group for group project	• Comprehension check based on the readings • Lecture worksheets • Complete Lab 10 (interpret results of reading experiment activity) • Project Literature Review and Ideas	Sunday Oct 29, 2023
Week 11 Between-subjects experiments and t-test	• Read Research Methods Chapter 8 and Statistics Chapter 10 • View two Week 11 lecture videos and accompanying PowerPoint files, do the ACTIVITY (read/generate experiment) • View resources and prep for Lab 11	• Comprehension check based on the readings • Lecture worksheets • Complete Lab 11 (interpret results of read/generate experiment activity, and practice with operational definitions) • Project Proposal [group]	Sunday Nov 5, 2023
Week 12 Within-subjects experiments and t-test	• Read Research Methods Chapter 9 and Statistics Chapter 11 • View two Week 12 lecture videos and accompanying PowerPoint files • View resources and prep for Lab 12 (including video on running experiments in Qualtrics) • Work on implementing group project experiment in Qualtrics	• Comprehension check based on the readings • Lecture worksheets • Complete Lab 12 (between-subjects t-test in SPSS) • Draft 1 of paper (intro)	Sunday Nov 12, 2023

Week	Learning Activities	Assignments	Due Dates All due at 11:59 pm CST
Week 13 One-way ANOVA, statistical significance, effect size	• Read Statistics Chapter 12, and Gurnsey (2017) pp. 1-18, 39-57 • View two Week 13 lecture videos and accompanying PowerPoint files • View resources and prep for Lab 13	• Comprehension check based on the readings • Lecture worksheets • Complete Lab 13 (one-way ANOVA in SPSS) • Draft 2 of paper (intro+method) • Run experiments online via Qualtrics	Sunday Nov 19, 2023
Thanksgiving Week			
Week 14 Factorial Designs, Two-way ANOVA	• Read Research Methods Chapter 11 and Statistics Chapter 13 • View two Week 14 lecture videos and accompanying PowerPoint files • View resources and prep for Lab 14	• Comprehension check based on the readings • Lecture worksheets • Complete Lab 14 (analyze data from group project if ready)	Sunday Dec 3, 2023
Week 15 Quasi-experimental independent variables, and developmental research designs	• Read Research Methods Chapter 10 and Twenge (2010) • View two Week 15 lecture videos and accompanying PowerPoint files • View resources and prep for Lab 15	• Comprehension check based on the readings • Lecture worksheets • Complete Lab 15 (bar graph) • Draft 3 of paper (intro+method+results)	Sunday Dec 10, 2023
Week 16 Small-N experiments, and Bayesian statistics	• Read Research Methods Chapter 14 • View two Week 14 lecture videos and accompanying PowerPoint files	• Comprehension check based on the reading • Lecture worksheets • Create final presentation video [group] • Draft 4 of paper (complete) • Peer evaluation • Post-course questionnaire • FINAL EXAM (PSYC221) • [no lab this week]	Friday Dec 15, 2023