

Research Design and Statistics I

PSYC 220-001 & 002 Fall 2023

Instructor	Dr. Carlee Beth Hawkins	Email	carhawk@siue.edu
Office	AH 0132 or zoom (link on BB)	Class Info	MW 11-11:50 AH0302
Office Hours	Mon & Wed 11:50-12:50	001 Lab Time	Fri 11-11:50 AH1201
Phone	618-650-2253	002 Lab Time	Fri 12-12:50 FH3208
TA	Kaitie Van Pelt	TA	Kayode Ajibose
Office	TA office hallway	Office	TA office hallway
Office Hours	Wed 1-2; Fri 1-2	Office Hours	Fri 9-11
Email	kavanpe@siue.edu	Email	kajibos@siue.edu

Course Description

Psychology is a science. PSYC220 and PSYC221 introduce students to the common research designs and statistics used in psychology and other behavioral sciences. PSYC220 focuses on nonexperimental research designs and descriptive statistics. PSYC221 focuses on experimental research designs and inferential statistics. These classes will prepare you to critically engage with research in all areas of psychology and develop your scientific skepticism as a consumer of research. **Prerequisite: C or better in PSYC 111**

Course Objectives

In this course, students will learn to:

- Understand nonexperimental research designs and their appropriate statistical analyses
- Compute descriptive statistics by hand and use SPSS (statistics software) to analyze data
- Design and conduct survey studies and write research reports in APA style

Required Materials

Research Methods textbook: Gravetter, F. J., Wallnau, L. B., Forzano, L. B., & Witnauer, J. E. (2018). *Essentials of statistics for the behavioral sciences* (9th ed.). Cengage.

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

SPSS software: Version 26 <https://www.siue.edu/its/labsclassrooms/vlab/spss.shtml>

Calculator: Simple calculator, such as TI-30Xa (not your phone or a graphing calculator)

Course Structure

PSYC220 will have the following structure:

- “Class” will be held every Mon and Wed from 11-11:50am in person in AH0302
- “Lab” is on Fridays in person (unless planned for online ahead of time)
 - Section 001 will be 11-11:50am in AH1201
 - Section 002 will be 12-12:50pm in FH3208
- All assignments for class and lab will be submitted online and due Saturdays at midnight

For typical face-to-face classes, university policy expects that you will spend TWO HOURS outside class for every ONE HOUR inside class. PSYC220 is a 3-credit class, so that means I expect you to work NINE HOURS per week on this class. I will provide a weekly to do list with approximate time commitments for each task, but keep in mind these are estimated averages. If you do not have this time now, you should consider taking this course another semester.

How to Do Well and Stress Less in This Course

- **Understand course expectations** – read syllabus, ask questions, read weekly to do lists
- **Complete weekly material** – read textbook, listen to lectures, take notes, study
- **Attend and get help** – attend class and lab, communicate with lab team, professor, TAs
- **Submit assignments** – assignments are due on Blackboard Saturdays at midnight

Course Requirements and Grading

<u>Assessment</u>	<u>Point Total</u>	<u>Percent of Grade</u>	<u>Grade Breakdown</u>
Exams	140 pts	28%	90% – 100% = A
Quizzes	60 pts	12%	80% – 89% = B
Survey project	230 pts	46%	70% – 79% = C
Lab Attendance	70 pts	14%	60% – 69% = D
Total points	500 pts	100%	below 60% = F

- **Exams [140 points]**. Exam 1 is worth 60 points and Exam 2 is worth 80 points.
 - **Justification for assessment.** In order for you to earn a psychology degree, you need to understand basic research design and statistics. Exams encourage you to study the course material and store it in long-term memory so you can retrieve it later to learn in PSYC221 and your advanced psychology classes. Exam 2 is cumulative.
 - **Exam format.** Exams are completed on Blackboard and open book/open notes, but *not* open-Google. Exams will cover material from the textbook, lectures, and class discussions. Exams will include factual and conceptual questions, problems, and questions that require you to think about the concepts and apply them to a new topic.
 - **Exam timing.** Exams will be available for a given time window. You will have 60 minutes for Exam 1 and 100 minutes for Exam 2; you must complete them in one sitting. Given the time limit and applied questions, you should study for exams.
- **Quizzes [60 points]**. You will have 6 online quizzes worth 10 points each.
 - **Justification for assessment.** A basic learning principle in cognitive psychology is the *testing effect* – that material is learned better if it is retrieved from memory through frequent testing. Quizzes require you to retrieve information from memory, which helps you understand your knowledge. Quizzes also prepare you for exams.
 - **Quiz timing and format.** Quizzes are completed on Blackboard and are open-book, but *not* open-Google. Quizzes are untimed, but must be completed in one session.
- **Survey project [230 points]**. You will complete a survey project that requires you to create a hypothesis, read research papers, design a survey, collect and analyze data, and understand your results. This project will culminate in a full APA-style report that is worth 100 points.
 - **Justification for assessment.** The survey project assesses your ability to apply the knowledge gained in class to your own project. Running your own survey project is “hands-on” – it allows you to learn by *doing* rather than just listening and reading.
- **Lab attendance [70 points]**. You will earn 5 points for attending AND participating in each lab. There are 15 planned labs; you are allowed to miss one lab without penalty.
 - **Justification for assessment.** Labs are designed for interactive work with your classmates, TAs, and professor. Everyone must work together on the group project.

Course Calendar

Date	Topic	Reading	Assignment due Sat at 11:59pm	Points
Week 1	Science & research	M-Ch1		
8/25 Lab 1	Intro to survey project		Lab 1 assignment	10
Week 2	Hypothesize & operationalize	M-Ch2&3		
9/1 Lab 2	Understanding research articles		Quiz 1	10
Week 3	NO CLASS MONDAY 9/4 Methods in psychology	M-Ch6		
9/8 Lab 3	Finding research articles		Lab 3 assignment	10
Week 4	Observational designs	M-Ch13		
9/15 Lab 4	Writing Introductions	313-22; 334-39	Quiz 2	10
Week 5	Survey designs	M-Ch13		
9/22 Lab 5	Developing surveys	323-333	Sources worksheet	25
Week 6	Surveys and sampling	M-Ch5		
9/29 Lab 6	Surveys and writing Methods		Quiz 3	10
Week 7	Ethics and plagiarism	M-Ch4		
10/6 Lab 7	Introduction to SPSS		Intro & Method	25
Week 8	Review and Exam 1	--		
10/13 Lab 8	Analyzing data		Exam 1	60
Week 9	Frequency & central tendency	S-Ch1-3		
10/20 Lab 9	Analyzing data		Quiz 4	10
Week 10	Variability	S-Ch4		
10/27 Lab 10	Writing Results		Data worksheet	25
Week 11	Correlation	S-Ch14		
11/3 Lab 11	Writing Discussions		Quiz 5	10
Week 12	Catch-up and review	--		
11/10 Lab 12	Figures in SPSS		Results & Discussion	25
Week 13	Z-scores & probability	S-Ch5&6		
11/17 Lab 13	Abstracts and revisions		Quiz 6	10
11/20-11/24	Thanksgiving – NO CLASS	--	--	--
11/24 Lab	Thanksgiving – NO LAB	--	--	--
Week 14	Z-scores & probability	--		
12/1 Lab 14	Final paper workshop		Lab 14 assignment	10
Week 15	Revise paper & study	--		
12/8 Lab 15	Exam 2 review		Final Paper	100
Week 16	Finals week – NO CLASS	--	Exam 2	80

Course Policies and Expectations (students are responsible for knowing these)

- **Late policy.** Any assignment, quiz, or exam can be completed up to 48 hours late with a 20% late penalty. No need to request an extension – just complete your work within that period.
 - **NOTE.** If you are having personal struggles that prevent you from completing your

work regularly, please come to office hours or schedule a time for us to talk.

- **Illness policy.** If you have any illness symptoms that cannot be explained by a chronic condition you have, PLEASE stay home.
- **Attendance policy.** Missing class regularly typically results in failing the class. Because lab has groupwork, five points are awarded for each lab attendance AND participation. If you miss class, you should make up the work and be sure to attend the next class period.
 - **NOTE.** If you miss class regularly, I will begin to wonder if you have the time and motivation to complete PSYC220 right now and begin to pester you (this is no fun for either of us). This is a serious class that requires you to work hard and get help.
- **Open door.** My office is AH0132. If my door is open, you're welcome to drop in for help. If my door is closed, please do not disturb me unless we have a set appointment.
- **MY SIUE email.** I do my best to respond to email within a day or two. I am much better reached in person. Stop by my office, see me before or after class, or email your TAs.
- **YOUR SIUE email - weekly.** I will email you announcements and reminders after class. It is very important that you read these emails, but fine to catch up on them every few days.
- **YOUR SIUE email – before class.** In case of illness and childcare issues, I may need to move class online occasionally. Please check your email before leaving home for class.
- **Blackboard.** We will use Blackboard for course materials and submitting assignments.
- **Submitting your work using Turn It In.** Your papers and assignments will be submitted electronically through Turn It In, a plagiarism detection service to which the University subscribes. You should save your TurnItIn receipt as proof that you submitted your work on time. If you have issues with TurnItIn, you can also email me your paper for a timestamp.
- **Grades.** Student grades will be posted regularly on Blackboard. If you believe there is a discrepancy in the grade posted and the grade you received on an assignment, it is your responsibility to provide me with the graded assignment to justify any grade changes.
- **Extra credit.** Extra credit will be offered to the entire class, and not to individual students.
- **Academic honesty.** If you are involved in any case of academic dishonesty, you will earn an F on the assignment and will be reported to the Provost's office. A repeat offense will result in failing the class and additional reporting. Academic dishonesty cases may involve:
 - **Plagiarism.** Do not plagiarize. See department policy below.
 - **Cheating.** You are encouraged to study for exams with classmates and brainstorm research ideas or discuss course content. You will also work together on your survey projects in lab. It is acceptable to ask questions of your labmates and check answers in SPSS, but you should do all of your own work. You SHOULD NOT work together on your papers outside of class time.
 - **AI.** 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.

Required Technology

We will use Blackboard and SPSS in this course. It is your responsibility to address any computer or internet problems. Support for using Blackboard and SPSS is available by calling 618-650-5500, or by visiting <http://www.siu.edu/its/bb/> You will need the following:

- computer with an updated operating system, stable wifi connection, and updated browser
- Microsoft Office, including Word (SIUE students get Free Office 365)
- Other useful software is available at <http://www.siu.edu/its/software/index.shtml>
- SPSS on your home computer or you can use computers on campus

Student Services

<ul style="list-style-type: none">• Lovejoy Library Resources• Academic Success Sessions• Tutoring Resource Center• The Writing Center• Academic Advising	<ul style="list-style-type: none">• Financial Aid• Campus Events• Counseling Services• List of Student Resources• ITS (tech and Blackboard help)
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University and Psychology Department Policies

- **Psychology Department policy on plagiarism.** Plagiarism includes presenting someone else's words without quotation marks (even if you cite the source), presenting someone else's ideas without citing that source, or presenting one's own previous work as though it were new. When paraphrasing from another source or your own work, at the very least, the student should change the wording, sentence syntax, and order of ideas presented in the paper. Additionally, you should not submit a paper, or parts of a paper, written to fulfill the requirements of one class for the requirements in another class without prior approval of the current instructor and appropriate citation. Ideally, the student will integrate ideas from multiple sources while providing critical commentary on the topic in a way that clearly identifies whether words and ideas are those of the student or are from another source. Plagiarism is one type of academic misconduct described in SIUE's Student Academic Code (<http://www.siu.edu/policies/3c2.shtml>). University policy states that "Normally a student who plagiarizes shall receive a grade of F in the course in which the act occurs. The offense shall also be reported to the Provost." (<http://www.siu.edu/policies/1i6.shtml>). The University policy discusses additional academic sanctions including suspension and expulsion from the University. To insure that you understand how to avoid plagiarism, we encourage you to review the information on plagiarism provided on the Department of Psychology web page at <http://www.siu.edu/education/psychology/plagiarism.shtml>.
 - 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 Dr. Hawkins BEFORE you turn in a plagiarized paper. 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.
- **Psychology Department policy on Incomplete Grades, Pass-No Credit Option, and Withdrawal.** It is the student's responsibility to officially withdraw from a course through the Enrollment Office by the dates set by the university if the student is not intending to complete the course. Students who do not withdraw and have not completed the course will receive an Unauthorized Withdrawal (UW). Only under special circumstances may a faculty member agree to give the student an Incomplete (INC) grade in order to allow the student to complete the remaining work for the course no later than the end of the following semester. An INC is never automatic but must be approved by the instructor. If an instructor agrees to give a student an INC grade, the instructor and student will fill out a form (Memorandum of Incomplete Grade) indicating why an INC is being given. One copy of the completed form will be given to the student, one copy will be given to the instructor, and one copy will be kept by the Department of Psychology secretary. If the work is not completed by the specified time, the grade will be changed from INC to F.
- **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 (e.g., 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 (<http://www.siu.edu/is/writing>) or utilize one of the many online resources they have identified to help students (<http://www.siu.edu/is/writing/resources.shtml>). 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 fails to meet these writing criteria, the 0 will remain.

- **SIUE Statement on disabilities.** Students needing accommodations because of medical diagnosis or major life impairment will need to register with Accessible Campus Community & Equitable Student Support (ACCESS) and complete an intake process before accommodations will be given. The ACCESS office is located in the Student Success Center, Room 1270. You can also reach the office by e-mail at myaccess@siue.edu or by calling 618.650.3726. For more information on policies, procedures, or necessary forms, please visit the ACCESS website at www.siu.edu/access.
- **SIUE statement on diversity.** 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 [Inclusive Excellence, Education, and Development Hub](#) is an excellent resource for students for support and community. Any person who believes they have experienced or witnessed discrimination or harassment can contact Lindy Wagner, Assistant Vice Chancellor for Inclusive Excellence, Education and Development at (618) 650-3179 or linwagn@siue.edu.
- **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).
- **SIUE nondiscrimination policy.** Southern Illinois University Edwardsville (SIUE) is a public comprehensive University committed to creating and maintaining a diverse community in which students, faculty, and staff can learn and work together in an environment free of discrimination and free from any form of illegal harassment. Such actions violate the dignity of the individual and the integrity of the University as an

institution of learning. SIUE prohibits discrimination against employees, applicants for employment and students on the basis of age, color, disability, marital status, national origin, race, religion, sex, sexual orientation, or veteran's status. Discrimination in any form will not be tolerated; management and supervisory personnel, at all levels, are responsible for taking reasonable and necessary action to prevent discrimination.