

RESEARCH DESIGN & STATISTICS II

THE SEQUEL

TURBO Edition (8-week) ALL ONLINE

Mon Oct 19th to Fri Dec 18th

PSYC 221 sections 007 & 008 — Fall 2020 — 3 credit hours

Class times and format:

- **Asynchronous lectures** (not live) will be posted by 10am on:
 - Mondays
 - Wednesdays
- **Synchronous labs** (*live, be there for the section in which you're enrolled*) will be on:
 - Section 007: Fridays 8am-10am
 - Section 008: Fridays 10am-12pm
- **Tutoring hours (aka Office Hours)**: come on in and get help, and/or chat!
 - Mon: 5-6:30pm w/ Claire
 - Tues: 10-11:30am w/ Tariq, 2-3:30pm w/ Dr. Finley
 - Wed: 12-1:30pm w/ Dr. Finley
 - Thurs: 10-11:30am w/ Claire
 - Fri: 5-6:30pm w/ Tariq
 - (also by appointment [just contact us and we'll schedule a day/time])

Your instructors:

- **Dr. Jason Finley**, professor
 - *email:* jafinle@siue.edu
 - *phone:* 949-433-4216
 - *office:* 130 Alumni Hall [not that it matters anyway during the pandemic]
 - *tutoring hours:* Tues 1-2pm, Wed 1:30-3:30pm
- **Tariq Minor**, Graduate Teaching Assistant
 - *email:* tminor@siue.edu
 - *tutoring hours:* Tues 10-11:30am, Fri 5-6:30pm
- **Claire Greenlee**, Graduate Teaching Assistant
 - *email:* cgreenl@siue.edu
 - *tutoring hours:* Mon 5-6:30pm, Thurs 10-11:30am

Required course texts:

- 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.

Tech we will be using:

- **Blackboard:** <https://bb.siue.edu>
 - Asynchronous lectures, assignments, and handout stuff will be posted here.
- **Microsoft Teams:** via link on Blackboard, can be used in web browser or by downloading app onto computer and/or phone
 - We'll use MS Teams for communication, lab meetings, and tutoring hours.
When you have questions, post them here. MS Teams will also be useful for group project work.
- **SPSS:** download and install (*don't try to use the web version!*)
<https://www.siue.edu/its/labsclassrooms/vlab/spss.shtml>
- **Microsoft Office:** I highly recommend downloading and installing, (*don't try to use the web version! noticing a pattern?*). <https://www.siue.edu/its/office365/install.shtml>
- **Qualtrics:** for survey data gathering <https://siue.qualtrics.com/>
- **Google Forms:** for running experiments online <https://docs.google.com/forms>
- **YouTube:** for presenting exp. stimuli online <https://www.youtube.com/>
also, all asynch lectures will appear in the following playlist:
<https://www.youtube.com/playlist?list=PLEqON3UbJhzXMS2xTtiGyCBa8aUjI1ci>

Tech Requirements and Support:

Since this is an online course, you are expected to have:

- (1) 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.
- (2) Reliable internet access on a regular basis. If this is a problem for you, one option would be to visit the Library to use the wifi there.

Contact ITS at [618-650-5500](tel: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.

My 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.

How to communicate with me?

If you have questions, the best way to get in touch with me is MS Teams. Email is also an option, but I get a deluge of those everyday so I'm more likely to miss your message if it's in email. I will do my best to respond within 24 hours. Please address me as Dr. Finley or Professor Finley or Prof. Finley.

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

Prerequisite(s): PSYC 220 Minimum Grade of C, and psychology major

Course Description:

Psychology is the science of mind and behavior, and science is a way of knowing. This course (combined with PSYC220) provides an introduction to the research methods and statistics that behavioral scientists most commonly use in their efforts to understand the human condition. PSYC220 focuses on non-experimental research designs and descriptive statistics. PSYC221 focuses on experimental research designs and inferential statistics.

By the end of the semester, you will learn how 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 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. If you put in the time and effort and take advantage of tutoring from the graduate teaching assistants and me, you can definitely do this.

Course Objectives:

The learning activities, assignments, and exams in this course assess your mastery of these learning outcomes:

- **Critical and Creative Thinking**

You will learn how to think like a scientist about mind and behavior, how to transform

your curiosity into testable questions, and how to critically evaluate evidence. My approach to doing research is this: unbounded creative curiosity first. Then rigor. Finally practicality.

- **Research Skills**

You will learn the basic techniques of the whole research process, including: searching and reading published scientific literature, developing research ideas, the variety of methods available (descriptive/observational, correlational, experimental), how to run a good experiment, gathering data, analyzing data with statistics, and communicating results to colleagues.

- **Statistics Skills**

You will learn the role of statistics in psychological science, the major concepts of descriptive and inferential statistics, which statistics are used in which scenarios, and how to conduct, interpret, and report statistics (in part by using SPSS).

- **Writing Skills**

You will improve your writing skills, and learn to write a paper using APA (American Psychological Association) style.

Note that my job is to *help* you learn, not *force* you to learn. Learning requires time and effort. I am here to help you, but you need to take responsibility for your own learning and meet me partway.

Online Class Etiquette/Logistics:

- Be kind and considerate to each other.
- Take notes. Whether it's asynch lecture videos, synch lab sessions, or reading the book, you'll want to be taking notes. On paper or on computer? Both have their advantages; use whatever works best for you.
- You're going to do best if you use a computer rather than phone or tablet.
- ***Please have your video camera on for synchronous sessions if feasible.*** It makes it much easier for your instructors to establish rapport with you. Microphones will be muted by default, but you can unmute anytime to speak.
- A headset with microphone would be helpful, but not required.
- If possible, set up a wired connection (ethernet) to your computer, as this will give you a more reliable internet connection than wireless.
- WEAR CLOTHES.
- Don't have anything opened on your computer that you wouldn't want others to see.
- Please be mentally present and *minimize distraction*. I will strive to not be boring.
- No antimatter allowed, on or off campus; trust me on this.
- **Ask questions!** Seriously! Speak up whenever you have questions, don't understand something, have answers, have ideas, and so on. Asking questions is a sign of WISDOM, and it's also a great way to learn. Never be embarrassed to ask for help.

- Recordings of class: 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.

Overview of what you need to do for this course: [see also weekly infographic]

- Watch the Monday and Wednesday asynchronous lectures and do the respective worksheets by 11:59pm.
 - Do the assigned readings from the textbook.
 - Attend the synchronous lab sessions on Fridays during your assigned section, and do the worksheets by 11:59pm.
 - Do the weekly comprehension check by Sunday 11:59pm at the end of each week.
 - Work with your group to create and run an experiment project.
 - Do project components and turn them in on time.
 - Collect and analyze data.
 - Give a final group presentation.
 - Write a final individual paper and turn it in on time.
 - Do the final exam.
 - Ask me or our graduate teaching assistants for help when you don't understand something. Go to tutoring hours. Be in touch if stuff is going on in your life.
 - KEEP UP. This is a CONDENSED class so it moves FAST. DON'T PROCRASTINATE.
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Evaluation: Your grade in this course will be based on:

Asynch Lecture Worksheets 16 worth 16 points each	256
Synch Lab Worksheets 6 worth 24 points each	144
Lab Attendance 7 worth 8 points each	56
Weekly Comprehension Checks 7 worth 24 points each	168
Group Research Project Project Lit Review & Ideas: 20 Project Proposal [group]: 20 Draft 1 (intro): 20 Exps. Posted Online [group]: 22 Draft 2 (+method): 20 Draft 3 (+results): 20 Draft 4 (final paper): 32 Final Group Presentation [group]: 22	176
Final exam	200
Total:	1000

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

895	\leq	A	\leq	1000
795	\leq	B	$<$	895
695	\leq	C	$<$	795
595	\leq	D	$<$	695
0	\leq	F	$<$	595

Note that 895 points is 89.5%, 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.

Asynchronous Lectures + worksheets:

Every Monday and Wednesday (unless otherwise noted in the schedule), an asynchronous lecture will be posted on Blackboard by 10am. Watch it, and do the related worksheet activities by 11:59pm. I am making the lecture videos and worksheets together, so

that you'll be asked to pause at various points in the video to go do something in the worksheet. The aim is to help keep you engaged and not bored!

Synchronous Labs: Attendance and worksheets

Every Friday (unless otherwise noted in the schedule), there will be live synchronous lab sessions (conducted via MS Teams, or Zoom if that doesn't work). You must attend and do the related worksheet activities by 11:59pm. Be sure to attend the section you are enrolled in. 007: 8am, 008: 10am. We will be taking attendance partway through each lab session.

Weekly Comprehension Checks:

Each week there will be a comprehension check on Blackboard for the readings covered that week. The general format will be 10 multiple choice questions per chapter, drawn randomly from a question pool. The due date is Sunday 11:59pm at the end of each 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 final score 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:

For the group research project, you will be put into groups of ≈ 4 students. You will work with your group to design and conduct an experimental study. The project will be completed in stages with due dates throughout the 8 week course as you create an APA style paper. We may ask you to submit drafts via Turn-It-In on Blackboard, which automatically checks for 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 3 hour time limit, only one attempt allowed. It will be available on Blackboard for 48 hours and due by 11:59pm on the Friday of week 8 (see schedule below). You will be allowed to use all resources (e.g., notes, book, lectures, powerpoints), except for other people.

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*.

Late Policy:

You can turn in 2 things up to 5 days late without penalty. After that, all late work will earn half credit up until the end of week 8. There will be no late or makeup chance for the exam.

Academic Honesty:

In this course, you are NOT ALLOWED TO WRITE YOUR PAPERS TOGETHER. In addition, you must work independently on all exams. If you are involved in any case of academic dishonesty (e.g., you copy work from a classmate or other source, OR your actions allow another student to copy from you, you forge an assignment or plagiarize, etc.), you will earn an F on the assignment and the offense will be reported to the Provost's office. More than one infraction will result in an F in the class.

University and Psychology Department Policies

- **Psychology Department PSYC 220/221 policy.** This course has a “2 attempt” rule—you may only attempt the course (including W, WF, WP) two times. After two unsuccessful attempts, you will be dropped from the major. A grade of C or better is required for this course. If you earn a course grade of D or F, it is your responsibility to contact your adviser immediately to determine whether there is any possibility of getting enrolled in a section of this course next semester.
- **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.siue.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.siue.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.siue.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 the professor or your TAs 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.
- **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 (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 (<https://www.siue.edu/lss/writing-center/index.shtml>) or utilize one of the many online resources they have identified to help students (<https://www.siue.edu/lss/writing-center/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 still fails to meet the basic writing criteria, the grade of 0 will remain.

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.

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 Center for Student Diversity & Inclusion <https://www.siue.edu/csci> 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.

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 [mental health support]

Dealing with the fast-paced life of a college student can be challenging, even when we're not in the midst of a worldwide crisis. I encourage you to reach out when you need mental health support (e.g., anxiety, depression). 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](tel:618-650-2842).

COVID-19 Pandemic Policies Related to Classroom Instruction (Fall 2020)

This class will not be meeting in person at any time. Nevertheless, I am including an excerpt from SIUE's *COVID-19 People-Focused Health and Safety Policy*, which can be found in its entirety here: <https://www.siue.edu/policies/Covid.shtml>

General Health Measures

At all times, students should engage in recommended health and safety measures, which include:

- Conducting a daily health assessment. If you have COVID-19 symptoms, but not yet tested positive, have had COVID-19 close contact exposure, or are COVID-19 diagnosed as presumptive or confirmed positive, stay home and contact your health provider or SIUE Health Service at cougarcare@siue.edu or 618-650-2842. More information is available on the SIUE COVID-19 website.
- Frequent washing or disinfecting of hands.
- Social distancing by maintaining a distance of at least six feet from others.
- Face masks or face coverings that cover the nose and mouth are required in indoor public spaces regardless of the ability to maintain social distance. Indoor public spaces include common spaces or community settings that anyone can access, such as reception areas with walk-in access, restrooms, hallways, classrooms, teaching and research laboratories, as well as common spaces in residence halls, conference rooms, lobbies, and break rooms.
- Adhere to directional signs and traffic flow patterns in buildings and offices. Doors for entering and exiting buildings will be designated. Where multiple doors exist, in and out doors will be marked with "Entrance" and "Exit" signs.

Subject-to-Change Clause:

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.

Week	Date	Topic	Reading Chapter	Due by 11:59pm	Also Due by 11:59pm
9	Mon Oct 19	Take the day off; we've all earned it.			
	Wed Oct 21	The biggest new idea in this course: Distribution of Sample Means, and SE	Stats ch. 7	lecture worksheet	
	Fri Oct 23	NO SYNCH LAB. ASYNCH LECTURE INSTEAD. Hypothesis testing (if we knew σ): The z -test. Inferential Stats Zone!	Stats ch. 8	lecture worksheet	
	Sun Oct 25			weekly comp. check	
10	Mon Oct 26	But we never actually know σ ! Enter the t -test.	Stats ch. 9	lecture worksheet	
	Wed Oct 28	EXPERIMENTS: The big guns of science.	R.M. ch. 6 pp. 147-154, & R.M. ch 7	lecture worksheet	
	Fri Oct 30	<i>SYNCH LAB: Group project topic selection & lit review</i>		lab worksheet	
	Sun Nov 1			weekly comp. check	Project Lit Review & Ideas

Week	Date	Topic	Reading Chapter	Due by 11:59pm	Also Due by 11:59pm
11	Mon Nov 2	Between-subjects experiments	R.M. ch. 8	lecture worksheet	
	Wed Nov 4	t-test for two independent samples (aka between-subjects)	Stats. ch. 10	lecture worksheet	
	Fri Nov 6	<i>SYNCH LAB: IV vs DV... operational definitions... online exp demos</i>		lab worksheet	
	Sun Nov 8			weekly comp. check	Project Proposal [Group]
12	Mon Nov 9	Within-subjects experiments	R.M. ch. 9	lecture worksheet	
	Wed Nov 11	t-test for two related samples (aka within-subjects)	Stats. ch. 11	lecture worksheet	
	Fri Nov 13	<i>SYNCH LAB: Design Worksheet, running experiments online</i>		lab worksheet	
	Sun Nov 15			weekly comp. check	Draft 1 (intro)

Week	Date	Topic	Reading Chapter	Due by 11:59pm	Also Due by 11:59pm
13	Mon Nov 16	ANOVA: comparing more than 2 [samples] (1 IV with 3+ conditions)	Stats. ch. 12	lecture worksheet	
	Wed Nov 18	Effect sizes: beyond stat. significance? +multiple comparison problem + when to use what stat. test	(TBD)	lecture worksheet	
	Fri Nov 20	<i>SYNCH LAB: ANOVA</i>		lab worksheet	Exps. Posted Online. Data Collection Begins
	Sun Nov 22			weekly comp. check	Draft 2 (+method)
	Mon Nov 23 - Fri Nov 27	Thanksgiving week off			
14	Mon Nov 30	Factorial designs (>1 IV)	R.M. ch. 11	lecture worksheet	
	Wed Dec 2	Two-factor ANOVA (2 IVs)	Stats. ch. 13	lecture worksheet	
	Fri Dec 4	<i>SYNCH LAB: analyze new results if enough data. If not, do additional analyses on 220 data.</i>		lab worksheet	
	Sun Dec 6			weekly comp. check	

Week	Date	Topic	Reading Chapter	Due by 11:59pm	Also Due by 11:59pm
15	Mon Dec 7	Quasi-experimental IVs?	R.M. ch. 10? (or alt. TBD)	lecture worksheet	
	Wed Dec 9	Developmental Research Designs	(TBD)	lecture worksheet	
	Fri Dec 11	<i>SYNCH LAB: analyze results, PsychMAP community on Facebook?</i>		lab worksheet	
	Sun Dec 13			weekly comp. check	Draft 3 (+results)
16	Mon Dec 14	Small-N experiments?	R.M. ch. 14?	lecture worksheet	
	Wed Dec 16	Bonus topic: Bayesian approach to stats?	(TBD)	lecture worksheet	
	Fri Dec 18	<i>LAB: final project presentations</i>		final exam (Thurs-Fri)	Draft 4 (final paper)