

Research Design & Statistics II
SPRING 2022 PSY221-006/007

Lectures: Monday and Wednesday 11:00-11:50 a.m. (@ FH0116)

Labs (006): Friday 11:00-11:50 a.m. (@ AH1203)

Labs (007): Friday 12:00-12:50 p.m. (@ AH1201)

Instructor: Mitsuru Shimizu

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Office Hours: Tuesday & Thursday 11:00 – 11:50 a.m. or by appointment

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Office:

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Graduate Teaching Assistant: Krysta Mroz

Office:

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Required Materials (rent the books from Textbook Services):

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

- Gravetter, F. J., & Wallnau, L. B. (2018). Essentials of statistics for the behavioral sciences (10th ed.). Belmont, CA: Wadsworth- Cengage Learning.

- Calculator: Students must acquire a statistics calculator for both PSYC 220 and 221. This calculator must be capable of computing squares, square roots, sums of scores (Σx), sums of squares (Σx^2), and standard deviations (σ). The professors teaching these courses are strongly recommending the Texas Instruments TI-30Xa calculator. We have chosen this calculator due to its affordability, functionality, and user-friendliness. Please note that a graphing calculator is not permitted in either PSYC 220 or 221. It is your responsibility to understand how your calculator works.

Course Objectives: In this course, you will learn about experimental research methods in psychology. The primal goals of this course are to:

- 1) Help you design and conduct experimental research studies.
- 2) Help you learn the hypothesis testing procedure for experimental research studies
- 3) Help you know how to use SPSS to execute statistical analyses for experimental research studies
- 4) Help you to report the findings from experimental studies in APA style.

Class Format: The core of the course will be a series of lectures and group activities, although some classes will be delivered online (either synchronous or asynchronous). The readings will compliment the lecture materials. However, some things will be covered in lecture that will not be covered in the book. You are responsible for learning everything that is covered in class, including group activities. The lecture notes will be posted, but they are only an approximation of what will be covered in class. **The best strategy is to print out the notes before class, bring them to class, and then write additional notes on top of them.**

Evaluation: You will be graded on the basis of your:

- a) Exams (65%). The first, second, and third exams will constitute 15% of your final grade (45% in total) and the final cumulative exam will constitute 20% of your final grade (see schedule). All questions will be multiple-choice format. These exams are NOT open book/open note. Unless you can document that you experienced illnesses or crises during the exams, there will be no make-up exams.
- b) In-class Activities and Homework (25%): You will be asked to participate in eleven activities (see schedule). Typically, during lab sessions on Friday, you will be asked to collaborate with other students to solve questions. Also, you will be asked to complete 4-5 homework.
- c) Final Assignment (10%): You will be asked to write a short research summary based on sample experimental data, which is due on **April 25th**.

Grades: I will use the following scale to assign letter grades:

90 and above = A 80-89 = B 70-79 = C 60-69 = D 59 and below = F

Accommodations for Disabilities: Notify the professor immediately of any needed accommodations for documented disabilities at the beginning of the course. If you are expecting accommodations at any time in this class, you must speak Disability Support Services in Rendleman 1218 before you need accommodations. According to SIUE safety and procedures policies, students with disabilities have the option of developing a written plan for evacuation in the unlikely event of an emergency that requires evacuation. If any student with a disability would like to develop a written evacuation plan for this class, please contact the instructor.

The Psychology Department's Policy on Withdrawals and Incompletes: All withdrawals must be completed by the end of the 13th week of classes during fall and spring, and by a similarly late date (i.e., before 82% of class meetings have occurred) in any summer term. When students discontinue attending class and do not withdraw from a course they may receive the grade of UW (Unauthorized Withdrawal). The grade of UW will only be given when a student's grade based on the course requirements is an F. The grade of UW is calculated as an F in a student's grade average. The granting of a grade of I (Incomplete) is not automatic and is available only in cases when a student has completed most of the work required for a class but is prevented by a medical or similar emergency from completing a small portion of the work not later than the end of the following semester. An I must be approved by the instructor with appropriate documentation provided by the student. If an instructor agrees to give a student an I, the instructor will fill out a Memorandum of Incomplete Grade to be kept with the student's records. If the work is not completed by the time specified on the Memorandum, the student's grade will be changed from I to F.

The Psychology Department's Policy on Plagiarism: Plagiarism includes either presenting someone else's words without quotation marks (even if you cite the source) or presenting someone else's ideas without citing that source. If you plagiarize, your instructor cannot evaluate your understanding of the topic. When paraphrasing from another source, at the very least the student should change the wording, sentence syntax, and order of ideas presented in the paper. 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>.

COVID-19 Pandemic Policies Related to Classroom Instruction (Spring 2022)

Health and Safety

The measures outlined below are required and any student who does not comply may be in violation of the *COVID-19 People-Focused Health and Safety Policy*, as well as the University's *Student Code of Conduct*.

The full text of the *COVID-19 People-Focused Health and Safety Policy* can be found here: <https://www.siue.edu/policies/Covid.shtml>

Classrooms, Labs, Studios, and Other Academic Spaces

Under current University policy, whether in the classroom, lab, studio, or other academic spaces, students (regardless of vaccination status) shall wear face coverings that fully cover the nose and mouth and practice physical distancing measures to the extent practicable based on the specific classroom capacity and pedagogy. Classroom furniture should not be rearranged, and furniture that has been taped off or covered should not be used.

Students who forget to wear a face covering will be reminded of their obligation to comply with SIUE's *COVID-19 People-Focused Health and Safety Policy* and temporarily asked to leave the class until they are able to conform to the policy. Students who forget or lose their face coverings may be able to obtain replacements from a friend, a faculty member, or a nearby departmental office. Face coverings are also available for purchase in the Cougar Store (MUC).

Students who refuse to wear a face covering will be asked to leave the classroom and referred to the Dean of Students for non-compliance with community health and safety protocols. Repeated non-compliance may result in disciplinary actions, including the student being administratively dropped from an on-ground/face-to-face course or courses without refund if no alternative course format is available.

If a student has a documented health condition which makes wearing a face covering medically intolerable, that student should contact ACCESS to explore options with the understanding that ACCESS will not grant accommodations which excuse the need for a face covering while on campus or in the classroom. ACCESS will work with qualifying individuals to find reasonable alternatives, whenever such solutions are available. Please call or contact the ACCESS Office via email to schedule an online appointment to discuss potential alternatives. ACCESS office (Student Success Center, Room 1203, 618-650-3726, and myaccess@siue.edu).

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, contact your health provider or SIUE Health Service at cougarcare@siue.edu or 618-650-2842. More information on reporting procedures is available [here](#).
- Frequent washing or disinfecting of hands.
- Adhere fully to the current face mask and physical distancing rules as articulated in policy: <https://www.siue.edu/about/announcements/coronavirus/safety-guidelines-support/face-mask-pick-up.shtml>
- If present, adhere to directional signs and traffic flow patterns in buildings and offices. In many spaces, doors for entering and exiting buildings are designated.

Academic Integrity

Students are reminded that 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. The full text of the policy can be found here: <https://www.siue.edu/policies/3c2.shtml>.

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>.

Potential for Changes in Course Schedule or Modality

As the COVID-19 pandemic continues, there remains a possibility that planned classroom activities will need to be adjusted. Depending on circumstances and following state-issued recommendations, potential changes include alterations to distancing requirements, course modality (e.g., transition from face-to-face to online, hybrid, or hy-flex, mask wearing, in-course activities, etc). These changes would be implemented to ensure the successful completion of the course while preserving health and safety. In these cases, students may be provided with an addendum to the class syllabus that will supersede the original version. If the course schedule or modifications significantly alter expectations, a new syllabus will be issued.

Tentative Course Schedule

Date	Lecture and Activity	Readings: G&F	G&W
1/10	Introduction to lectures (synchronous online)		
1/12	Review PSYC220 (synchronous online)	Cp1, 3, 4, 6, 13	
1/14	Introduction to lab sessions (synchronous online)		
1/17	<i>Martin Luther King Day (No Class)</i>		
1/19	Review PSYC220 (Cont.)		Cp1-6
1/21	Activity 1 (Review Descriptive Stats)		
1/24	Sampling Distributions and Probability		Cp7
1/26			
1/28	Activity 2 (Standard error)		
1/31	Hypothesis Testing		Cp8
2/2			
2/4	Activity 3 (z -test)		
2/7	Exam 1		
2/9	One-sample t -test		Cp9
2/11	Activity 4 (One-sample t -test)		
2/14	Overview of Experimental Methods	Cp7	
2/16	Between-Subject Designs	Cp8	
2/18	TBA		
2/21	Independent-sample t -test		Cp10
2/23			
2/25	Activity 5 (Independent-sample t -test)		
2/28	Activity 6 (Review t -test)		
3/02	Exam 2		
3/04	TBA		
3/07	<i>Spring Break (No Class)</i>		
3/09			
3/11			
3/14	One-way ANOVA		Cp12
3/16			
3/18	TBA		
3/21	One-way ANOVA (Cont.)		Cp12
3/23			
3/25	Activity 7 (One-way ANOVA)		
3/28	Post-hoc Tests		
3/30	Activity 8 (Post-hoc Tests)		
4/01	Activity 9 (Review Stats for Between-Subject Designs)		
4/04	Exam 3		
4/06	Factorial Design	Cp11	
4/08	TBA		

4/11	Two-way ANOVA		Cp13
4/13			
4/15	Activity 10 (Two-way ANOVA)		
4/18	Within-Subject Designs	Cp9	
4/20	Repeated Measures Tests (<i>t</i> -test and ANOVA)		Cp11, 13
4/22	TBA		
4/25	Repeated Measures Tests (<i>t</i> -test and ANOVA: Cont.)		
4/27			
4/29	Activity 11 (Repeated Measures <i>t</i> -test and ANOVA)		

Note: The Final Exam is tentatively scheduled during the exam week.