

PSYCHOLOGY 520
Research Design and Inference I
Fall 2019

Class Meets	Thursday: 5:00 pm – 6:20 pm (AH 0401)
Lab Meets	Thursday: 6:40 pm – 8:00 pm (SE 2268)
Instructor	Joel T. Nadler, Ph.D.
Office	Alumni Hall 0124
Phone	650-3347
E-mail	jnadler@siue.edu
Office Hours	Thursdays 1:00 pm -3:00pm and by appointment
Teaching Asst.	David Stevenson
Office	Alumni Hall 0320
E-mail	dmersma@siue.edu
Office Hours	Tues 2-4pm and Thurs 3-4pm, and by appointment
Textbooks	Field, A. (2018). <i>Discovering Statistics Using IBM SPSS Statistics, 5th Ed.</i> Thousand Oaks, CA: Sage.
Optional	<i>Concise Rules of APA Style</i> (6 th ed.). Washington, DC: American Psychological Association Shadish, W.R., Cook, T.D., & Campbell, D.T. (2002). <i>Experimental and Quasi-Experimental Designs for Casual Inference.</i> Boston, MA: Houghton Mifflin.
Websites	APA Style Blog: http://blog.apastyle.org/ UCLA's SPSS FAQ: http://www.ats.ucla.edu/stat/SPSS/faq/default.htm
Course Objectives	The purpose of this course is to provide an introduction to univariate, parametric statistics and experimental research methodologies that are commonly used in psychology. This course will focus on selecting appropriate statistics and designs; and on the theories, computer calculations, and interpretations of those statistics. Empirical scientific methodology and statistical analysis are the tools used by both psychology as a science (exploring human behavior) and psychology as a practice (applying what we know about human behavior in the efforts to bring about positive changes in behavior). This class will focus on both teaching the methods and statistic to allow you to conduct your own studies and the knowledge to become expert consumers of other's research.
Reading & Lectures	Lectures and readings will follow the same sequence. However, as they are meant to compliment rather than repeat each other, lectures will cover some material not mentioned in the book and omit material that is in the book. Students will be responsible for information from both.

Computer Lab	The purpose of the lab is to (a) teach you how to use SPSS to compute univariate statistics and apply the materials learned in lecture. The lab will consist of in-class practice assignments that will be very similar to the homework assignments. You may work with other students and the teaching assistant on these in-class assignments. Because the lab is intended for in-class assignments, not your homework assignments, you will receive your homework assignments at the end of each lab.										
Homework Assignments	There are 8 homework assignments, with five questions for each assignment, and each question is worth 5 points. Please type the results of these assignments whenever possible. You may write out statistical computations by hand, but please write clearly. All homework assignments must be done independently. Group work is considered cheating , and anyone caught cheating will receive a failing grade for that assignment. Please read each question carefully and make sure you answer all parts of each question. All of these homework assignments will constitute as 40% of your final grade (200 points).										
Submitting Assignments	Homework assignments are due at the end of the lab a week after receiving the assignment. Late assignments will only be accepted up to two days after the due date AND 5 points will be deducted for each day it is late in addition to that marked off for incorrect or incomplete answers. While I will not insist that you hand-in all assignments to the teaching assistant in person, I recommend it. If you submit your assignments via e-mail, her mailbox or by putting them under her office door, you are still responsible for getting them to her on time.										
Exams	Three exams will be given. Each exam will count as 20% of your final grade (100 points). Exams will cover material from the lecture, readings, and labs. A study guide will be made available for both exams approximately one week before the test. Simple calculators are allowed to be used for the tests, but please note that calculators with statistics pre-programmed are not allowed (most graphing calculators) or devices that are also capable of texting.										
Make up Exams	Make up exams will be given only in the case of a medically documented illness, in which case, an alternative exam will be provided. Failure to take a make up for a missed exam will result in a grade of 0 for that exam.										
Attendance & Participation	You are expected to attend class and contribute to class discussions. If you miss class, be sure to get notes from another student.										
Grading	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Homework Assignments 1-8</td> <td style="width: 50%; text-align: right;">40%</td> </tr> <tr> <td>Exams (20% each)</td> <td style="text-align: right;">60%</td> </tr> <tr> <td>A: 100% - 90%</td> <td style="text-align: right;">B: < 90% - 80%</td> </tr> <tr> <td>C: <80% - 70%</td> <td style="text-align: right;">D: <70% - 60%</td> </tr> <tr> <td>F: Below 60%</td> <td></td> </tr> </table>	Homework Assignments 1-8	40%	Exams (20% each)	60%	A: 100% - 90%	B: < 90% - 80%	C: <80% - 70%	D: <70% - 60%	F: Below 60%	
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C: <80% - 70%	D: <70% - 60%										
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Eating: Do not eat during class. You may bring drinks in spill-proof containers,

Course Outline for Lecture

WEEK	TOPIC	READINGS	LAB (SE 2268)
1 Aug 22	Introduction to Advanced Statistics	Chapter 1 & 2	Intro to Lab
2 Aug 29	Scientific Method	Chapter 3, 4, & 5	Intro to SPSS
3 Sept 5	Review of Basic Statistics	Chapter 6 & 10	Descriptive and Basic Statistics
4 Sept 12	Review of Basic Statistics	Chapters 8	Pearson Correlation Spearman & Point Biserial Correlations Homework #1 Due
5 Sept 19	Simple Regression <ul style="list-style-type: none"> • Testing relationships vs. Prediction • Introduction to GLM • Simple regression analysis 	Chapter 9	Simple Linear Regression Homework #2 Due
6 Sept 26	Simple Regression <ul style="list-style-type: none"> • Regression coefficients • Interpreting regressions • Relating to other statistics 	Chapter 9	Homework #3 Due <i>"This Is Jeopardy!"</i>
7 Oct 3	Exam 1 (10/3)	Covers weeks 1 – 6	
8 Oct 10	Multiple Regression Analysis <ul style="list-style-type: none"> • Regression coefficients • Predictability • Higher order trends • Interactions 	Chapter 11	Multiple Regression
9 Oct 17	Partial and Semi-partial correlations	Chapter 11	Multiple Regression/Review
10 Oct 24	One-way (between-subjects) ANOVA <ul style="list-style-type: none"> • Post hoc tests • Contrasts • Dummy coding • Trend analysis 	Chapter 12	Between Subjects ANOVA Homework #4 Due
11 Oct 31	Within-subjects ANOVA Matching EC for Costumes	Chapter 15	Within Subjects ANOVA Homework #5 Due <i>"This Is Jeopardy!"</i>
12 Nov 7	Exam 2 (11/5)	Covers weeks 8 – 11	
13 Nov 14	Factorial ANOVA <ul style="list-style-type: none"> • Interactions • Tests for simple main effects 	Chapter 14	Factorial ANOVA Homework #6 Due

WEEK	TOPIC	READINGS	LAB (EB 1145)
14 Nov 21	Mixed Designs (within and between)	Chapter 16	Mixed Designs Homework #7 Due
15 Dec 5	ANCOVA Blocking	Chapter 13	ANCOVA Homework #8 Due <i>"This Is Jeopardy!"</i>
Dec 12	Exam 3 5:00 – 8:00 pm	Covers weeks 13 – 16	

The Psychology Department's 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>.

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 the Student Success Center in Rm 1270 (650-3726) before you need accommodations. Also, 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 Incomplete Grades: It is the student's responsibility to officially withdraw from a course 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 F. Only under special circumstances a faculty member may agree to give a 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 professor. If a professor agrees to give a student an INC grade, the professor and the 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 professor, and the Department of Psychology secretary will keep one copy. If the work is not completed by the time specified on the Memorandum of Incomplete Grade form, the grade will be changed from INC to F.

SIUE Statement on Diversity: All societies and peoples have contributed to the rich mix of contemporary humanity. In order to achieve domestic and international peace, social justice, and the development of full human potential, we must build on this diversity. SIUE nurtures an open, harmonious, and hospitable climate that facilitates learning and work. Each member of the University is responsible for contributing to such a campus environment.

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.