PSY 4520: Statistics in Behavioral Sciences
University of Central Missouri
Spring 2017 * {Insert Room Number}

INSTRUCTIONAL TEAM INFORMATION

Lead Instructor

Name:	Katie Jacobs	Office Hours:	{Insert Dates and Times}
E-mail:	jacobs@ucmo.edu		{Insert Dates and Times}
Phone:	660-543-4817		{Insert Dates and Times}
Office:	Lovinger 1122		Or by appointment

Graduate Teaching Assistant:
{Insert Graduate Teaching Assistant Name, Contact Information, and Office Hours}

CATALOG COURSE DESCRIPTION

Basic statistical methods. The techniques used to analyze frequency distributions, correlations, and tests of significance.

MISSION STATEMENT

The Department of Psychological Science is committed to preparing a diverse body of students to apply skills and knowledge from the discipline of psychology in a changing world. We provide a contemporary and comprehensive curriculum, grounded in psychological science, with opportunities for personalized educational experiences and the use of relevant technology. We prepare students for employment in a variety of fields as well as admission to graduate and professional programs.

COURSE PREREQUISITES

To be successful in this course, you must know certain prerequisite knowledge. This is considered more of a language-based course than a mathematics course. Therefore, you must be proficient at the following mathematical skills prior to enrolling in this course.

- Completing basic mathematical operations including, but not limited to addition, subtraction, multiplication, division, square root, exponent, slope, absolute value, and percentages accurately
- Applying the order of operations correctly when solving formulas
- Rounding numbers accurately to the hundredths place using conventional rounding rules
- Identifying the proper decimal place

REQUIRED TEXTBOOK

Salkind, N. J. (2013). *Statistics for people who (think they) hate statistics* (5th Ed.). Los Angeles, CA: Sage.

COURSE LEARNING OBJECTIVES (QM 2.1, 2.3, 2.5)

- Demonstrate knowledge of statistical concepts, assumptions, and procedures

- Identify different data types
- Represent the data in graphic format
- Choose an appropriate statistical analysis technique
- Perform the appropriate analysis and interpretation

TECHNOLOGY AND MATERIAL REQUIREMENTS (QM 1.2, 1.7, 6.4, 6.6, 7.1)

- Calculator (at the minimum able to perform addition, subtraction, multiplication, division, square roots, exponents, brackets, and parentheses)
- Writing Utensil
- Notebook

STUDENT EVALUATION (QM 3.2)

Grades	**Minimum Point Threshold**
A	337.5 Points
B	300 Points
C	262.5 Points
D	225 Points
F	Anything Below 225 Points

Note, you must reach the minimum point threshold in order to get the appropriate grade in the course. There will be no rounding of grade. This threshold is firm and is to ensure equal treatment of students in the class.

Assignment Details

Homework Assignments (13 @ 10 Points Each, Expect to Spend 2-3 Hours Per Week on These)*:* Each week I will assign you homework related to the information that we learned in that unit. The homework may not always look the same, but this will be my primary way of assessing if you know how to go through the process and calculations. At different points in the semester, this work may look very differently because we will be learning a wide variety of skills. It is important to do the best that you can each week, because all of the information builds on itself.

Attendance (45 @ 1 Point Each)*:* Because we will do several in-class activities, attendance is vital to your success. Generally, statistics is one of students most feared classes. By avoiding class, you will make the course harder for yourself. Earn attendance points for coming to class on time, actively participating in class, and staying the entire class period.

Exams (2 @ 45 points each, Expect to Spend 1 Hour Per Week Preparing for the Exam… note I said each week, not the night before…). This is your time to shine. Now that you've practiced with your peers and me, it is time to show not what you can repeat in class, but that you can use the information you've learned to think critically about the material. Through homework you showed your ability to calculate various statistical analyses, now show me you know what all that crazy statistics information means.

Reading and Reviewing Notes (Expect to Dedicate 1-2 Hours per Week Reading and Reviewing your Notes): As a student, part of your responsibility is to make sure that you keep up with reading and that you really understand the information we are learning each week. Statistics is not the type of class where you can slack off for the first 5 weeks and be okay in the end. **If you want to know what you can do to get an A in the class, read all of the chapters, and review your notes each week until you understand the material. If you don't understand the readings, bring those questions to class and/or come to my office hours for extra help.**

Class Learning Activity (50 Points, Expect to Spend 5 Hours Preparing the Class Learning Activity)*:* In this assignment, the purpose of it is to deepen your understanding of a particular topic and use your personal talents and skills to help deepen your peers' understanding of the material we are learning in class. In this assignment you will craft a learning activity and lead the activity during class. See the separate rubric document to see the specifics on directions and evaluation of the assignment. Note, if you plan to bring food as part of your in-class learning activity, make sure to check for any food allergies of the students in the class.

Comprehensive Final Examination (60 Points): This is the time to show me that you know all of the great information that I taught you over the semester.

EXPECTATIONS FOR STUDENT ENGAGEMENT

- *Bring your course materials to class each week.* This means to make sure that you bring your textbook, calculator, notebook, and pencil with eraser to every class. Although our textbook is super user-friendly, that means that I will need to do tons of supplementary instruction to get you where you need to be. Taking notes in class will help you to rehearse the information so that you remember and understand the material.
- *Read and follow the syllabus*. It is basically our contract for the semester that includes my policies and procedures for the course.
- *Check your school email frequently.* I will use the Blackboard to send important announcements to your school email.
- *Check your grades on Blackboard.* By checking your grades throughout the semester, you will be able to see where you stand and help remediate any discrepancies immediately. Email me within 7 days of the posted grade to resolve any grading issues.
- *Complete all reading assignments before class.* I chose this book rather than a traditional statistics book because it is very student-friendly; readings are fairly easy and help provide a foundation for the quizzes, homework assignments, discussion, lectures, et cetera.
- *If you miss class, it is your responsibility to catch up through getting notes from your peers and coming to my office hours.* Homework missed due to absence from class still is subject to the original deadlines for the work. If it is a planned absence, you must email me to schedule a time during my office hours to make up the work a week prior to the absence.

COMMUNICATION AND SUPPORT (QM 1.3, 6.6, 7.1)

Over the semester I will communicate mostly through email and/or Blackboard announcements. Make sure to check your email frequently to get vital updates for the course. Please allow me 1-2 business days to respond to emails, my response time depends on the volume of emails I receive. I generally do not respond to emails during evenings, weekends, and holidays, so make sure to send your emails well in advance of needing a reply.

MAKEUP/MISSED WORK POLICY (QM 1.4)
Late work is not accepted unless there is an extreme reason that is verified through the Office of Student Experience and Engagement and with instructor approval (e.g., think premature labor, being deployed, death of a close family member). Extenuating circumstances require documentation. As long as you are making it to class on time, this shouldn't be a problem because we will be doing work in class. All of the concepts build on one another, so you will need to be proficient each week in order to be successful the following week. Students sometimes struggle with statistics, so I want to make sure I am fair and that I give you the best opportunity to succeed and that's one of the reasons why I firmly enforce this policy.

DROP POLICY
Those who do not validate their enrollment by the university established deadline, will be dropped from the course, unless written notification of the student's intention to attend class is provided to the instructor. Please note that it is your responsibility to withdraw from the course if you choose to do so. See the academic calendar for the final drop date for the semester. Final grades will be assigned to all students on the official roster, **regardless** of their attendance/participation.

EARLY ALERT
As part of the College of Health, Science, and Technology commitment to building a positive student-centered learning community that supports the success of every student, the faculty member instructing this course participates in the UCM Early Alert program. Basically this means if I am worried about you (e.g., you miss a lot of class, you act out in class, you don't turn in your work), I am going to submit a report through the Early Alert System to try to get you some additional supports. I do this, because I care about your success and well-being.

PLURALISM
Honestly, class is boring when everyone has the same opinion. In order to have a great class, we have to be respectful of other people and their opinions. This means we create an environment where it is okay to disagree. To do this, we never attack people. No matter how much you hate their idea, never attack the person. We are not bears.

ACADEMIC HONESTY POLICY
You are here because the University of Central Missouri (UCM) believed in your ability to complete your intellectual endeavors in an honest manner. I believe in your abilities to do this and expect academic honesty from you. Review the FULL academic honesty policy within your student handbook; you are responsible for knowing and applying it. Cheating in this course can potentially result in an F for the course overall, dismissal from your program, or the university. All suspicions of academic honesty violations are reported to the Office of Student Experience and Engagement for your file. You are expected to do all of your work on your own. It is okay to ask a peer or me a question if you don't understand something, but do your own work.

ACCESSIBILITY
If you have a documented disability, please contact the Office of Accessibility Services, Union 220, (660) 543-4421 to arrange accommodations.

LIBRARY SERVICES

You may access your library account, the online catalog, and electronic databases from the James C. Kirkpatrick Library's website at http://library.ucmo.edu. For assistance with research and assignments, you may contact Research Help:

Phone: 660-543-4154 Email: reference-jckl@ucmo.edu
Text: 660-223-0011 RefChat: library.ucmo.edu/chat

ALIGNMENT MATRIX

Student Course Learning Objectives (QM 2.1, 2.3, 2.5)	**Unit Learning Objectives** (QM 2.2)	**Student Evaluation** (QM 3.2)	**Instructional Procedures and Learning Methods** (QM 1.2, 2.1, 3.1, 3.2, 3.3)
LO1 Demonstrate knowledge of statistical concepts, assumptions, and procedures	-Describe the difference between descriptive and inferential statistics -Describe the difference between parametric and non-parametric statistics -Identify the appropriate level of measurement -Determine whether data meets assumptions for each particular statistical test -Identify statistical symbols and explain their meaning	Homework Class Learning Activity Exams	Reading Textbook Studying Notes
LO2 Identify different data types	-Determine the level of measurement for data -Determine whether the data is discrete or continuous -Describe the difference between the independent and dependent variables	Homework Exams	Reading Textbook Studying Module Materials
LO3 Represent the data in graphic format	-Create a frequency distribution -Create a visual display of data	Homework Exams	Reading Textbook Studying Module Materials
LO4 Choose an appropriate statistical analysis technique	-Determine whether the data meets the parametric and/or other assumptions for particular statistical analysis technique -Identify whether to use a parametric or non-parametric analysis for the data provided.	Homework Exams	Reading Textbook Studying Module Materials
LO5 Perform the appropriate analysis and interpretation	-Calculate a one-sample z-test (Unit 8), independent samples t-test (Unit 9), dependent samples t-test (Unit 10), one-way ANOVA (Unit 11), factorial ANOVA (Unit 12), correlational coefficient (Unit 13), prediction from regression equation (Unit 14), chi-square goodness of fit (Unit 15), and chi-square test of independence (Unit 15) -Use appropriate table to find critical values to determine significance at .05 and .01 levels	Homework Exams	Reading Textbook Studying Module Materials

TENTATIVE COURSE SCHEDULE

NOTE: Syllabus and Schedule Subject to Change at Instructor's Discretion at any Time.

Weeks of…	Mondays	Wednesdays	Fridays
1. Jan 9	Pretest Orientation to Class	Chapter 1 Statistics of Sadistics? It's Up to You	Chapter 6 Just the Truth: An Introduction to Understanding Reliability and Validity
2. Jan 16	No School ☺ Happy Martin Luther King Jr. Day!!!	Homework 1: Introduction to Statistics	Chapter 2 Means to an End: Computing and Understanding Averages Chapter 3 Vive la Difference: Understanding Variability
3. Jan 23	Homework 2: Measures of Central Tendency and Variability	Chapter 4 A Picture Really is Worth a Thousand Words	Homework 3: Frequency Distributions and Visual Displays of Data
4. Jan 30	Chapter 7 Hypotheticals and You	Chapter 8 Are Your Curves Normal? Probability and Why It Counts	Homework 4: Normal Curve, Area Under the Curve, and z-scores
5. Feb 6	Student Learning Activities	Student Learning Activities	**Exam 1**
6. Feb 13	Probability PDF (See Blackboard for this reading)	Probability Continued	Homework 5: Probability
7. Feb 20	Chapter 9 Significantly Significant: What it Means for You and Me	Chapter 10 Only the Lonely: The One-Sample z-Test	Homework 6: Hypothesis Testing and One-sample z-Test
8. Feb 27	Chapter 11 t(ea) for Two: Tests Between the Means of Different Groups	Mann-Whitney *U* Test	Homework 7: Testing Two Independent Groups
9. Mar 6	Chapter 12 t(ea) for Two: Tests Between the Means of Related Groups	Wilcoxon Signed-Rank Test	Homework 8: Testing Two Related Groups

10. Mar 13	Student Learning Activities	Student Learning Activities	**Exam 2**
SPRING BREAK: NO CLASS *Be safe and enjoy your week off from class. See you next week!!!*			
11. Mar 27	Chapter 13 Two Groups Too Many? Try Analysis of Variance	Kruskal-Wallis *H* Test	Homework 9: One-Way ANOVA, Effect Size, Results Writing, and Interpretation
12. Apr 3	Chapter 14 Two Too Many Factors: Factorial Analysis of Variance-A Brief Introduction	Friedman's Test Data Transformation Demonstration	Homework 10: Factorial ANOVA, Effect Size, Results Writing, and Interpretation
13. Apr 10	Chapter 5 Ice Cream and Crime: Correlation Coefficients Chapter 15 Cousins or Just Good Friends? Testing Relationships Using the Correlation Coefficient	Homework 11: Testing the Correlational Coefficient	Chapter 16 Predicting Who'll Win the Super Bowl: Using Linear Regression
14. Apr 17	Homework 12: Regression	Chapter 17 What to Do When You're Not Normal: Chi-Square and Some Other Nonparametric Tests	Homework 13: Chi-Squares
15. Apr 24	Student Learning Activities	Student Learning Activities	Post-Test Putting It Altogether
Comprehensive Final Exam: Wednesday, May 3rd 3:30 pm to 5:30 pm			