

CJ 3313 / PSCI 3313
Statistics for the Social Sciences

Instructor: Dr. Adam McKee
Time: TH 11:10 to 12:30
Room: MCB 218

Instructor Contact Information:

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Office Hours

Monday: 9:00 to 11:00 & 2:00 to 3:00
Tuesday: 1:00 to 3:00
Wednesday: 9:00 to 11:00 & 2:00 to 3:00
Thursday: 1:00 to 3:00
Other Times: By Appointment

COURSE DESCRIPTION: A study of basic statistical methods commonly used in the social and behavioral sciences.

COURSE OBJECTIVES: The primary course objective is to provide students with a foundation in the theoretical and computational elements of elementary statistics as commonly used in the social sciences. This objective is achieved through mastery of the following:

1. Essential vocabulary that will enable the student to understand basic concepts of statistics.
2. Basic computational techniques.
3. The emergence of statistics as a modern scientific tool.
4. Analytical application of vocabulary and concepts to various factual situations.

REQUIRED TEXT:

Statistics for the Terrified (3rd ed.)
Author: John N. Kranzler

Supplemental Website: <http://www.iejs.com>

This course is "web enhanced." This means that many of the required readings will be found on the website at the URL above. To access material for this class, go to that site and click on the green "UAM Students" link near the bottom of the page, then select "Statistics"

COURSE GRADE

Your grade will come in the form of four (4) examinations, periodic quizzes, and homework. Each exam will consist of approximately 50 points in any possible combination of formats, including essay. All exams, including the final, will be comprehensive. Statistics is a discipline that builds on itself; it is critical to retain information as we move along. The grading scale is as follows:

90% - 100%	A
80% - 89%	B
70% - 79%	C
60% - 69%	D
Below 60%	F

Grade Components:

3 Exams @ 15% each	45%
Quizzes	15%
Homework	15%
Final Exam	25%
	<hr/>
	100%

UAM will no longer mail grade reports to all students. You may access your grades through Campus Connect on the UAM homepage, <http://www.uamont.edu/>. To have your grades mailed to you, complete the grade request form available in the Registrar's Office in Monticello or the Student Services offices in Crossett and McGehee.

Class Decorum:

ACADEMIC DISHONESTY: Seeking, obtaining, or accessing information in any form or by any method other than the unprompted knowledge of the student constitutes cheating. Plagiarism is the presentation of the work *or ideas* of another as one's own. Cheating on tests or plagiarism will result in a failing grade for the course and be referred to the Dean of Students for additional review (see the *UAM Catalog* for a description of the University's disciplinary procedure).

Unless specifically stated by the instructor, all assignments are to be completed by you alone. Do not work in groups unless specifically authorized to do so. Two or more students collaborating on an assignment will be considered **plagiarism**. *This does not preclude the use of study groups and mutual aid—these are highly encouraged.*

ATTENDANCE, PARTICIPATION AND TARDINESS: Students are expected to participate in class discussions. If you are more than 10 minutes late for class, don't come at all. Entering class late is disruptive and discourteous to other students.

Mandatory attendance will not be demanded within the scope of this class. I understand that there are going to be instances where you are not going to be able to make it, there may be a time when I am unable to attend class. However missing class will adversely affect your grade in that information that I present within the scope of lecture and discussion may not be covered in the book. I have found that there is a direct correlation between the number of times that a student misses class and the grade that they earn. **THIS COURSE, DUE TO ITS NATURE, BUILDS ON ITSELF. MISSING CLASS WILL HURT YOU OVER THE ENTIRE SCOPE OF THE CLASS.** If you miss a class, talk to one of the students in the class to get a copy of the day's notes.

Any missed material is the responsibility of the student.

MAKE UP EXAMINATIONS AND LATE WORK:

Failure to take an exam during the scheduled time period will result in a failing grade for the exam. However, upon the occurrence of *serious* illness or other extremely compelling circumstances, supported by incontrovertible evidence, **one** make-up exam **may** be given. Missed exams will be taken on the last regularly scheduled day of class. Such exams will always be in a long essay format. *Late work will be assessed a 10% penalty for every 24 hour period that lapses past the time the assignment is due.* Deadlines are just that; early work is always accepted. If you think there is the slightest possibility that your computer will fail, your printer will malfunction, or a feral goat will eat your paper, plan to turn it in with a few days safety margin. You will not be able to make up missed *homework* and *quizzes*; your lowest grade, however, will be dropped.

Special Note: The instructor reserves the right to administratively withdraw students from the class who cause a disruption to the learning environment or otherwise fail to conduct themselves in a manner befitting a student at the University of Arkansas at Monticello. Any behaviors expressly forbidden in the University *Catalog* are grounds for such withdrawal. Do not converse with other students and do not bring noisemaking electronic devices to class. This includes cell phones, beepers, and so forth. (Public safety professionals are exempt from this requirement while on duty).

You are expected to act in a professional manner in this course. You are required to act in accordance with University regulations and maintain a respectful demeanor toward your classmates. Any violation of University policy will result in your administrative withdrawal from the course. Consider your interactions with this course as a *professional* environment.

A Note from the Provost's Office

"The following action is prohibited under the Student Conduct Code: Disorderly Conduct: Any behavior which disrupts the regular or normal functions of the University community, including behavior which breaches the peace or violates the rights of others."

Students with Disabilities:

It is the policy of the University of Arkansas-Monticello to accommodate individuals with disabilities pursuant to federal law and the University's commitment to equal educational opportunities. It is the responsibility of the student to inform the instructor of any necessary accommodations at the beginning of the course. Any student requiring accommodations should contact the Office of Special Student Services located in Harris Hall, Room 219, phone 870-460-1154; TDD 870-460-1251; or fax 870-460-1810.

Important Dates

Wednesday, August 23:	First Day of Classes. Schedule Changes.
Tuesday, August 29:	Last Day to Make Schedule Changes
Monday, September 4:	Labor Day Holiday—No Classes
Thursday, September 14:	Exam I (Tentative)
Friday, October 6:	Deadline to Apply for May Graduation
Thursday, October 12:	Exam II (Tentative)
Monday, November 6:	Spring Registration Begins
Wednesday, November 8:	Last Day to Withdraw with a 'W'
Thursday, November 9:	Exam III (Tentative)
Wednesday, November 22:	Thanksgiving Holiday Begins
Tuesday, December 5:	Last Day to Withdraw
Thursday, December 14:	Final Exam (10:30)

Learning Objectives

The following learning objectives represent major objectives for the course. Keep in mind that some of these headings are very general and may seem deceptively simple. Use these objectives to guide you in studying for exams.

Unit 1: Course Survival Skills (Corresponds to chapters 1 and 2 in the text).

1. Identify strategies for successfully studying statistics.
2. Identify common causes of math anxiety.
3. Identify the strategies for dealing with math anxiety.

Unit 2: Basic Math Review (Corresponds to chapter 3 in the text).

1. Perform calculations according to the Basic Math Rules.
2. Perform calculations involving positive and negative numbers.
3. Perform calculations using fractions.
4. Perform calculations using decimals and percents.
5. Perform calculations using exponents and roots.
6. Describe and apply the order of operation rules.
7. Perform calculations using summation.

Unit 3: Frequency Distributions (corresponds to chapter 4 in the text).

1. Define the following statistical terms: Statistic, data, descriptive statistics, inferential statistics, variable.
2. Define the levels of the scales of measurement and correctly classify variables among those levels.
3. Describe the function of a frequency distribution.
4. Construct a frequency distribution given raw data.
5. Interpret and construct a grouped frequency distribution.
6. Interpret and construct a frequency polygon.
7. Describe the characteristics of a normal distribution.
8. Identify the symbols commonly associated with the techniques discussed in this unit.

Test 1

Unit 4: Measures of Central Tendency (Corresponds to Chapter 5 in the text)

1. Define central tendency and explain its importance in the summarization of data.
2. Define and compute the mean given raw data.
3. Define and compute the median given raw data.
4. Define and compute the mode given raw data.
5. Select the appropriate measure of central tendency given data characteristics.

Unit 5: Measures of Variability (Corresponds to Chapter 5 in the text)

1. Define, compute, and explain the appropriate use of the range.
2. Define, compute, and explain the appropriate use of variance.
3. Define, compute, and explain the appropriate use of standard deviation.
4. Identify the statistical symbols associated with the computation and reporting of the range, variance, and standard deviation.

Unit 6: The Normal Curve (Corresponds to chapter 6 in the text)

1. Describe the characteristics of the normal curve.
2. Describe the importance of the normal curve in the prediction and explanation of social variables.
3. Describe the limitations of normal curve in predicting and explaining social variables.
4. Solve problems concerning the proportion of cases under particular areas of the normal curve.

Test II

Unit 7: Percentiles and Standard Scores (Corresponds to chapter 7 in the text)

1. Describe the use of percentiles in summarizing and explaining data.
2. Describe and compute z and other standard scores.
3. Convert standard scores to percentiles.
4. Solve problems concerning percentiles and standard scores.

Unit 8: Correlation Coefficients (Corresponds to chapter 8 in the text)

1. Describe and interpret correlation coefficients.
2. Describe, interpret, and compute Pearson's r .
3. Describe and interpret other methods of correlation.

Unit 9: Linear Regression (Corresponds to chapter 9 in the text)

1. Describe the purpose of regression.
2. Explain and interpret the elements of the regression equations.
3. Explain and interpret the standard error of the estimate.
4. Solve prediction problems using regression techniques.
5. Describe the limitations of linear regression in social research.
6. Describe the assumptions of regression analysis.
7. Interpret the results of a regression analysis from the results presented in a journal article.
8. Interpret the results of a regression analysis from an SPSS printout.

Test III

Unit 10: Inferential Statistics (Corresponds to chapter 10 in the text)

1. Describe the role of probability in inferential statistics.
2. Solve simple probability problems.
3. Describe the sampling process and the importance of randomness.
4. Differentiate between statistics and parameters.
5. Describe hypothesis testing and the null hypothesis.
6. Describe Type I and Type II errors.
7. Describe the relationship between Statistical Significance and Type I errors.

Unit 11: The t Test (Corresponds to chapter 11 in the text)

1. Describe the appropriate use of the t-Test for independent samples in social research.
2. Demonstrate the ability to compute t and determine the critical value of t using a t table.
3. Describe the assumptions of the t-Test for independent samples.
4. Describe the appropriate use of the t-Test for dependent (matched) samples.
5. Differentiate between directional and nondirectional tests.
6. Make a statement regarding the decision made based on the results of a t-Test.
7. Interpret the results of a t-Test from a SPSS printout.

Unit 12: Analysis of Variance (Corresponds to chapter 12 in the text)

1. Describe the appropriate use of Analysis of Variance (ANOVA) in social research.
2. Correctly construct an ANOVA table.
3. Correctly interpret the results of an ANOVA.
4. Describe the importance of measures of association and effect size.
5. Describe the purpose of post hoc analysis.
6. Describe the relationship between the results of a t-Test, an ANOVA, and a regression analysis.
7. Interpret the results of an ANOVA analysis from a SPSS printout.
8. Explain why the ANOVA technique is of more limited use in the social sciences than regression techniques.

Final Exam