

Quantitative Methods in Psychology – Summer 2011

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MTWTh 10:55 AM - 1:35 PM

HLL 116, Busch Campus

Instructor: Chris Medvecky

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Office Hours: By appointment

Required Textbook: Kiess, H. O., Green, B. A. *Statistical Concepts for the Behavioral Sciences* (4th Ed. ISBN 13: 978-0-205-626264-3; ISBN 10: 0-205-62624-6)

Course Overview / Learning Goals: The purpose of this course is to introduce you to a number of statistical concepts used in psychological research, among other research disciplines. Upon successful completion of this course, students will be able to:

- Understand the strengths and weaknesses of common research designs
- Effectively manage data sets
- Compute a number descriptive and inferential statistics
- Understand the conceptual basis of hypothesis testing and calculate and interpret statistical tests such as the *t*-test and ANOVA
- Be able to choose the appropriate statistical procedures given a particular research situation

These skills are essential for critically assessing research articles, as well as conducting your own research.

Grading: Course grades will be based on the following:

Homework (2.5 points each)	10 points
Quizzes (10 points each)	30 points
Midterm Exam	30 points
<u>Final Exam</u>	<u>30 points</u>
Total	100 points

Note: There will be four quizzes, and the lowest quiz grade will be dropped. Additionally, homework will be checked at five unannounced times throughout the semester, and only four will be counted towards your grade, allowing you to miss one homework without penalty.

Your course grade will be determined by the following grading scale:

90-100	A
86-89	B+
80-85	B
76-79	C+
70-75	C
65-69	D
64 and below	F

Reading and Homework Assignments: You are expected to read the assigned chapter prior to the class in which the material is discussed. It may be helpful to use select "Testing Your Knowledge" questions and review questions in the text to reinforce the material as you are reading. In addition to the reading, homework assignments will be given that are to be completed following each lecture. You will be given some time at the end of each class to work on the homework assignments. They will be due at the beginning of the next class.

You should print out the homework assignments, which can be found on the course's sakai site, and bring them to the class in which the corresponding lecture is given. You'll need to have the homework assignments to work on following the lecture. Homework will be checked at five unannounced times throughout the semester. You will be given credit if you complete the assignment in full. Showing your work is required for computational problems. These assignments are essential to your success in the course. Not only can you earn credit for completing the assignments, you will notice that a number of questions on the quizzes and exams will closely reflect questions assigned in your homework.

Attendance: You should attend all classes in this course. Although attendance will not be formally monitored, it is in your best interest to come to class prepared. That means you should have read the assigned chapter prior to class, have completed any homework assignment that is due that day, and have a copy of the following homework assignment so you can work on it at the end of class. If you are absent on a day where homework is checked, you will not have an opportunity to make up that missed assignment.

Absence from a scheduled quiz or exam should occur only under the most serious of circumstances. Make-up quizzes or exams will be given only for absences that are deemed excused. Excused absences will require written and signed documentation, and it will be left to my discretion whether a make-up is warranted. Make-ups must be taken within a week of the missed quiz or exam, as you will lose the opportunity to make it up after the week has passed. In addition, make-up exams may be more difficult than the original test.

Calculator: A calculator may be used on all homework assignments, quizzes, and exams. It should be able to perform square and square root functions. Please bring it to class.

Academic Integrity: Students are expected to adhere to the University's regulations regarding academic integrity, which can be found at the following web address:

<http://academicintegrity.rutgers.edu/integrity.shtml>

NOTE: ANY INFORMATION IN THIS SYLLABUS IS SUBJECT TO CHANGE. ANY CHANGES WILL BE ANNOUNCED IN CLASS AND ON THE COURSE'S SAKAI SITE.

Class Schedule:

Day	Date	Topic	Reading Assignment	Homework Due
T	5/31	Syllabus Introduction to Statistics	Chapter 1	
W	6/1	Scientific Method Scales of Measurement	Chapter 2	Homework 1
Th	6/2	Frequency Distributions Percentiles and Percentile Ranks	Chapter 3	Homework 2
M	6/6	Quiz 1 Measures of Central Tendency	Chapter 4	Homework 3
T	6/7	Measures of Variability	Chapter 5	Homework 4
W	6/8	Normal Distribution z-scores Probability	Chapter 6	Homework 5
Th	6/9	Quiz 2 Inferential Statistics	Chapter 7	Homework 6
M	6/13	Hypothesis Testing One Sample <i>t</i> -test	Chapter 8	Homework 7
T	6/14	Independent Samples <i>t</i> -test	Chapter 9	Homework 8
W	6/15	Related Samples <i>t</i> -test	Chapter 9	
Th	6/16	Review for Midterm		Homework 9
M	6/20	Midterm Exam		
T	6/21	One Factor Between-Subjects ANOVA	Chapter 10	
W	6/22	Post-hoc tests	Chapter 10	
Th	6/23	Two Factor Between-Subjects ANOVA	Chapter 11	Homework 10
M	6/27	Interpreting a Factorial ANOVA	Chapter 11	
T	6/28	Quiz 3 One Factor Within-Subjects ANOVA	Chapter 12	Homework 11
W	6/29	Correlation	Chapter 13	Homework 12
Th	6/30	Regression	Chapter 14	Homework 13
M	7/4	No Class		
T	7/5	Nonparametric Tests	Chapter 15	Homework 14
W	7/6	Quiz 4 Review for Final Exam		Homework 15
Th	7/7	Final Exam		