

# Psychological Statistics Fall 2008

**Time:** Tues/Thurs: 10:30 – 11:45  
**Location:** Veterinary Science and Bacteriology (VSB) 130  
**Instructor:** Renee Galliher  
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**Office Hours:** Tues: 12:00 – 1:00; Thurs: 9:30 – 10:20

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**Office Hours:**

**NOTE: The prerequisite for this class--Statistics 1040 is required. If you have not completed this prerequisite then you should not be here unless you have the permission of the instructor.**

**Class Fee:** \$7.50 (for SPSS site licenses and course materials)

**Required Text:** *Essentials of Statistics for the Behavioral Sciences*, (6<sup>th</sup>ed.) F.J. Gravetter and L.B. Wallnau (2007)

**Optional Text:** *A Simple Guide to SPSS for Windows, for version 14.0*. L. A. Kirkpatrick and B. C. Feeney. (2007)

## **Selected Course Objectives:**

- To understand the selection, computation, and interpretation of descriptive and inferential statistics, including:
  - 1) organizing, describing, transforming, and graphing data
  - 2) measures of central tendency and variability
  - 3) the normal distribution
  - 4) hypothesis testing and estimation with 1 and 2 samples
  - 5) hypothesis testing for k samples: 1-way ANOVA; and subsequent post hoc, multiple comparison procedures
  - 6) 2-way ANOVA with interactions; repeated measures ANOVA
  - 8) correlation; linear regression; prediction
  - 9) Chi square tests for frequencies for 1 and 2 samples

- To understand the utilization and interpretation of SPSS for Windows, including working with:
  - 1) data files, variables, and cases
  - 2) creating SPSS charts/graphs
  - 3) frequencies
  - 4) descriptive statistics
  - 5) one sample, paired samples, and independent samples t tests
  - 6) one way ANOVA; post hoc comparisons
  - 7) 2-way ANOVA; repeated measures ANOVA
  - 8) correlation
  - 9) chi square tests
  - 10) cross tabulations and two way contingency tables

Class Time will be used for lecture, discussion, demonstration (including SPSS procedures), problem-solving, exercises, and testing. It is expected that you will attend class regularly and will come prepared (i.e., having read the text and obtained the lecture notes from Blackboard).

### **Online Resources:**

**Blackboard Vista** [bb.usu.edu](http://bb.usu.edu): Blackboard will be your main resource for course content and between-class communication. In order to ease note-taking, all notes and PowerPoint presentations from class are posted on Blackboard. You can use the site to review or download material that you might not have had time to copy in class. Also posted on Blackboard are the grades, tutor schedule, homework assignments, and this syllabus (which is why we will only provide you with one hard copy of it). Additionally, the Blackboard communication tools will facilitate between-class discussion among class members, the instructor, and TA. You are strongly advised to check the Blackboard site at least once per week to obtain the lecture notes and to make sure your grades are recorded correctly and that you are aware of any changes that might be posted.

**Wadsworth Psychology Resource Center** <http://psychology.wadsworth.com>: The publishers of your textbook offer a website designed to facilitate student progress in the course. The site offers practice quizzes, links to other useful sites, and online workshops covering all course topics. Scroll down from the main psychology page and click on "Statistics." Then locate our textbook and click on the student companion site. You'll find learning activities, a glossary, and practice quizzes for each chapter.

### **Tutoring:**

Individual tutoring will be available at the YETC throughout the semester. Dates and times will be announced in class and posted on the Blackboard site by the second week of class. We ask for your help in evaluating the tutoring. It is important that you keep a calendar of when you visited a tutor, and record that person's availability (was s/he there?) and helpfulness. Please tell us about your experiences with the tutors. We want to hear about both problems and praises.

**Tests:** The four tests will each consist of two components and cover concepts, definitions, computations, and SPSS. **Blackboard quizzes.** For each of the four tests, a multiple choice, True/False, and matching section will be administered on Blackboard. Because there are no computer labs large enough to house the entire class, you will need to sign up to take the tests in a particular lab on campus. In order to access the quiz you will need the password provided by the proctor at the lab. The quizzes will only be available on Blackboard during test time and the passwords can only be obtained from the test proctors. Proctors will be available to answer logistical questions (not content questions). Blackboard quizzes are closed book.

**SPSS and computational take-home tests.** For each test, a take-home portion will evaluate SPSS and computational skills. Take home tests will be handed out when you have completed your Blackboard quiz. You will then have until the beginning of the next class period to complete and hand in the take home test. You may collaborate on the take-home tests. However, if there are questions in which you are to make up your own data bases, if these data bases are the same as anyone else's in the class, you and any others involved will receive a zero for that particular test (i.e., setting up one problem together, answering it, and printing two copies is unacceptable).

**Note.** Blackboard quizzes will be on Thursdays and computational and SPSS tests will be due the following Tuesdays. Tuesdays will be used, in part, to review the test. Questions about scores on any test will be entertained only for one week after the return of the test to the student. Thus, if you need a couple of points at the end of the term to advance to the next grade, earlier test answers and homework grades will no longer be the subject of discussion. You must arrange with the teaching staff to take make-up exams. All exams must be made up within one week of the scheduled test date. Failure to show up for a scheduled make-up exam will result in an automatic 0.

**Homework:**

- 1) Textbook homework consists of selected even numbered questions (see details below) in each chapter of the Gravetter and Wallnau text. If you are having trouble with a problem, remember that the text has the answers for the odd numbered exercises. Work the odd numbered items to see if you are doing the exercises correctly.
  - Chapter 1: 2-24 (even)
  - Chapter 2: 2-20 (even)
  - Chapter 3: 2-26 (even)
  - Chapter 4: 2 - 6 (even), 10, 14, 16, 18, 22, 26
  - Chapter 5: 2, 4, 8 – 20 (even)
  - Chapter 6: 2 – 24 (even)
  - Chapter 7: 2 – 6 (even), 10 – 16 (even), 20, 22
  - Chapter 8: 2-8 (even), 10 (using the six hypothesis testing steps from class lecture)
  - Chapter 9: 2-6 (even), 24 (using the six hypothesis testing steps)
  - Chapter 10: 2-6 (even), 22 (using the six hypothesis testing steps)
  - Chapter 11: 2-6 (even), 24 (using the six hypothesis testing steps)
  - Chapter 12: 2-8 (even), 14, 20
  - Chapter 13: 2, 4, 14, 22, 24 (using the six hypothesis testing steps)
  - Chapter 14 part I: 2, 4, 6, 12, 14 (using the six hypothesis testing steps)
  - Chapter 14 part II: 16, 18, 20, 22, 28 (using the six hypothesis testing steps)
  - Chapter 15: 2, 6, 8 (using the six hypothesis testing steps), 12, 14, 16, 24
  - Chapter 16: 10 (using the six hypothesis testing steps), 22 (using the six steps)

2) The directions for SPSS homework are posted on Blackboard. SPSS assignments are timed to correspond with the introduction of the theory and computations from the Gravetter and Wallnau text.

Homework from the prior week will be collected at the beginning of class each Tuesday. **Late homework will be accepted for ONE WEEK ONLY after the due date. A 10% late penalty applies to any homework handed in after the beginning of class on the due date.** For hand calculations, you must show a sufficient amount of work to document major steps in solving the problem. If an insufficient amount of work is shown, you will not receive full credit. All homework must be submitted on standard 8.5 X 11 inch paper, and **must be written clearly and neatly**. Staple your papers and remove any spiral fringes. Any homework assignment that, in the opinion of the tutor who is grading it, is illegible or unorganized will be returned ungraded to the student. The paper may be resubmitted but 10 percent will be deducted from the grade. Should you believe that your homework was graded inaccurately, you may explain in writing exactly which items you would like the teaching assistant to recheck. Turn this request in by the end of the next class period; the problems will be examined and any necessary adjustments to your grade will be made.

<b>Grades:</b>	Tests: Textbook and SPSS	80%
	Homework: Textbook and SPSS	<u>20%</u>
		100%

Letter grades are assigned based on the following criteria:

93-100% = A	73-76% = C
90-92% = A-	70-72% = C-
87-89% = B+	67-69% = D+
83-86% = B	60-66% = D
80-82% = B-	<60% = F
77-79% = C+	

Compute your grade in the following manner:

Tests:	_____ points earned/ _____ points possible x .80 =	_____ %
Homework:	_____ points earned/ _____ points possible x .20 =	_____ %
(Add textbook and SPSS homework totals together)		
Total		_____ %

**Note:** Grades are criterion-, not norm-referenced. This means no curve fitting. You are not competing with your fellow students for your grade, only with the course material. It is possible for everyone to get an A (or any other grade).

**Helpful Hint:** *It is strongly suggested that you keep all of your returned homework and tests in order to verify your grade. The computer program for grading does not make mistakes; however, it is possible that the person entering the scores may. If you think a score was entered incorrectly for an assignment or test, you must show the original paper, or it will be assumed that the score was entered correctly. This would be an unfortunate mistake, so **keep all of your class materials until you are satisfied that your grade is correct.***

**Academic Dishonesty:**

The consequence for cheating on any assignment or test is a zero grade, and immediate referral to the university's academic standards committee. Cheating includes such behaviors as using or providing others with unauthorized information, materials, or study aids in any academic exercise or activity, substitution for another student or permitting another student to substitute for oneself in taking an examination or in preparing academic work. Further, **any talking during the tests will be considered cheating.**

**Calculators:**

Calculators with statistical functions are required for computations. If you are buying a new calculator for use in this course, buy one that will automatically do statistical functions for 1 and 2 variables. Then learn to use it as early in the course as possible. Do not bring a relative or roommate's calculator to class without a manual and expect the instructor or teaching assistant to figure out how it works.

**Rounding:**

**Do not round numbers you are computing until the final answer.** Rounding numbers at each step in calculating results in answers that may be significantly different than the keyed answers for both exams and homework. Therefore, round only your final answer (to two decimal places) only after all calculations have been performed.

**Accommodations for Disabled Students:**

Students with physical, sensory, emotional or medical impairments may be eligible for reasonable accommodations in accordance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. All accommodations are coordinated through the Disability Resource Center (DRC) in Room 101 of the University Inn, 797-2444 voice, 797-0740 TTY, or toll free at 1-800-259-2966. Please contact the DRC as early in the semester as possible. Alternate format materials (Braille, large print or digital) are available with advance notice.

**Snow Days:**

If an assignment falls due on a day that the University is closed for snow, the assignments will automatically be due the next class period that the University is open. **DO NOT** attempt to turn in your assignment before the next scheduled class period. This puts both you (during your travel) and your work (it might get lost) at peril. **ENJOY YOUR DAY(S) OFF!!!!!!**

**Grievance Process (Student Code)**

Students who feel they have been unfairly treated [in matters other than (i) discipline or (ii) admission, residency, employment, traffic, and parking - which are addressed by procedures separate and independent from the Student Code] may file a grievance through the channels and procedures described in the Student Code: [http://studentlife.tsc.usu.edu/stuserv/pdf/student\\_code.pdf](http://studentlife.tsc.usu.edu/stuserv/pdf/student_code.pdf) (Article VII. Grievances, pages 25-30).

**Final Notes:**

Familiarize yourself with the information in this syllabus. If you have a question concerning grading procedures, homework points, deadlines for make-ups, etc., **READ THE SYLLABUS FIRST.** If the answer to your question is not contained in the syllabus, then ask the teaching assistant or the instructor.

Some of you may find that this class is too easy for you while others of you may feel overwhelmed. If you will come and see us, we can address your specific needs and try to see that this course is as productive for you as it can be. If you are having problems that might impact your work in class, regardless of whether they are personal or class-work related, please let us know as soon as you can. We want to work with you. There is always a way to make things more tolerable and improve your performance. We need your help to identify any problems that may exist. It is our desire that this class be successful for you, not only in teaching you about statistics and psychology, but in helping you discover more about yourself, your strengths and weaknesses, and how you can best meet your own personal goals.

**Tentative Schedule:** Be advised that the schedule is an approximation – dates may be changed to accommodate student needs for more or less coverage of certain topics.

WEEK	MATERIAL	CONTENT	HOMEWORK DUE		EXAM TOPICS
			Textbook	SPSS	
8/26– 8/28	Syllabus Chapter 1 Chapter 2	Experimental method; data types; scales; statistical notation; frequency distributions			
9/2 – 9/4	Chapter 3 Chapter 4	Mean, median, mode; Variation – range, variance, standard deviation	Chapter 1	Blackboard Assignment 1 (SPSS Chapters 1-5)	
9/9 – 9/11	Chapter 5	Normal distribution; z scores	Chapters 2 -4	Blackboard Assignment 2 (SPSS Chapter 6)	<b>Thurs: Exam 1 Chs 1-5, SPSS 1-6</b>
9/16 – 9/18	Chapter 6 Chapter 7	Probability; distribution of sample means	Chapter 5		<b>Tues: Take home 1 due</b>
9/23 – 9/25	Chapter 8	Hypothesis testing	Chapter 6 and 7		
9/30 – 10/2	Chapter 9	One-sample <i>t</i> -test	Chapter 8		<b>Thurs: Exam 2 Chs 6-9, SPSS 7</b>
10/7 – 10/9	Chapter 10	Independent samples <i>t</i> -test	Chapter 9	Blackboard Assignment 3 (SPSS Chapter 7)	<b>Tues: Take home 2 due</b>
10/14	Chapter 11	Dependent samples <i>t</i> -test	Chapter 10	Blackboard Assignment 4 (SPSS Chapter 8)	
10/21 – 10/23	Chapter 12	Estimation	Chapter 11	Blackboard Assignment 5 (SPSS Chapter 9)	
10/28 – 10/30	Chapter 13	ANOVA I – one-way ANOVA	Chapter 12		<b>Thurs: Exam 3 Chs 10-13, SPSS Chapters 8-10</b>
11/4 – 11/6	Chapter 14	ANOVA II – repeated measures	Chapter 13	Blackboard Assignment 6 (SPSS Chapter 10)	<b>Tues: Take home 3 due</b>
11/11 – 11/13	Chapter 14	ANOVA III – factorial designs	Chapter 14 – part 1	Blackboard Assignment 7 (SPSS Chapter 12)	
11/18 – 11/20	Chapter 15	Correlation and Regression	Chapter 14 – part 2	Blackboard Assignment 8 (SPSS Chapter 11)	
11/25	Chapter 16	Chi Square 1 & 2 variable; cross tabs	Chapter 15	Blackboard Assignment 9 (SPSS Chapter 14)	
12/2 – 12/4	Chapter 16 – catch up		Chapter 16	Blackboard Assignment 10 (SPSS Chapter 17)	<b>Take home 4 handed out</b>
12/9	<b>Exam 4: Chs 14-16, SPSS Chapters 11, 12, 14, 17 / Take home 4 due Final Exam Period Tuesday, Dec. 9 9:30 am – 11:20 pm</b>				