

# Statistical Methods (PSY 3000/3005 Section 1)

Fall 2012, Aug. 20 – Dec. 14

Prof. Robert Carlson

## Class Information

Lecture Days: Tues. & Thur.  
Lecture Time: 9:00 – 10:15  
Lecture Location: McDonald 104  
Lab Days: Thur.  
Lab Time: 10:30 – 12:15  
Lab Location: McDonald 111

## Contact Information

Office: McDonald 222  
Phone: 652-7893  
E-mail: rcarlson@dixie.edu

**Disclaimer**: Details of this syllabus are subject to change (I hope not, but you never know).

**Contacting Prof. Carlson**: The most effective way to contact me is by e-mail. I check my e-mail regularly, and I am much more likely to remember to respond to an e-mail than to a comment made to me before or after class (I tend to forget those comments, unfortunately). If you speak to me in person, especially away from my office, **make sure to follow up any conversations with an e-mail** to remind me to address the matter in a timely manner. I may not be in my office a lot outside of office hours, but you are welcome to drop by any time to see if I have time to meet with you. If you want to be sure I will be there to talk with you during a time other than official office hours, please feel free to contact me via e-mail to make an appointment. I am happy to work with you on your lab assignments or understanding any of the material. There are also Psychology tutors, at least one of which is traditionally chosen because they have excelled in this course in a previous semester.

**Course Summary**: The purpose of this course is to introduce Psychology majors to the use of statistics within the behavioral sciences. Students will learn how to *apply* statistical principles, instead of merely memorizing a set of equations, in a variety of research contexts within the behavioral sciences. This course should prepare students to succeed in a Psychology Research Methods course.

## **Course Information**:

Textbook: *Fundamental Statistics for the Behavioral Sciences*, 7<sup>th</sup> Edition, by David C. Howell

Study Guide: Online study guide (as of now, incomplete) provided for your convenience

Office Hours: Mon., Wed., Fri., 11:00-11:50; Tue., 10:20-11:50

Prerequisites: None

Course Fees: None

General Education: This course does not fulfill any general education requirements.

**Attendance Policy**: Students are expected to attend every class (lecture and lab) and participate in class discussions. There is a lot of material to learn in this course, and it is not easily learned in the abstract; it is vital for students to actively participate in learning the material, through class discussions and actively completing laboratory assignments. If you are going to perform well in this class, you must plan on staying on top of the work every week of the semester.

**Classroom Policy**: This is a relatively small class, and all students are expected to participate in classroom discussions. This material is best learned through active participation and application. Combined with the lab, this will be a hands-on course.

**Academic Honesty:** It is extremely important that students present their own work for grading in this course. I cannot accurately evaluate how much you have learned if you are turning in someone else's work. Although collaboration among students regarding the general approach to completing assignments is encouraged, the specific work that is submitted must reflect an individual student's own work, including your own wording of lab assignment answers.

**Grading Information:** Final grades in this course will be based on a percentage-based system, and there will **not** be a "curve" used to determine grades.

**Grade Components:** Quizzes (10%), Lab Assignments (25%), Midterm Exams (40%), Final Exam (25%).

**Quizzes.** Quizzes may be given each class period; if there is a quiz, it will usually be given at the beginning of class. Each quiz will be a short test of your knowledge of that class's reading assignment. In-class quizzes will typically be very short and can be completed in less than five minutes. Other quizzes will need to be completed outside of class. These quizzes must be completed independently; **do not copy another student's work.**

**Lab Assignments.** Plan on having a lab assignment due **every week.** Each assignment will be introduced in lab, including an elaboration of the material that was discussed in class which will be relevant for the assignment. Explanations about the use of statistical software will be given, so you will have all the knowledge you need to complete the assignment. There will always be time available during lab to work on that assignment. The average percentage score of each lab assignment (**not** total lab points) will count toward 25% of your course grade. See the Lab Guide for more information about lab.

**Midterms.** Midterms will test your knowledge of an entire section of the course. Midterm test questions will involve true/false and multiple choice questions, as well as questions that will require students to demonstrate their ability to apply the statistical principles learned in class. There will be three midterm exams during the semester; the lowest of the three midterms will count less toward your final grade. Specifically, your two highest midterm scores will each contribute 15% toward your final grade, and your lowest midterm score will contribute 10% toward your final grade. All midterm exams will be administered during class time, according to the schedule below.

**Final Exam.** The final exam will be administered at the end of the semester and will cover material from the entire course. It will be equivalent to a longer midterm exam.

**Grade Calculation:** Grades are calculated based on percentages, **not total points.** For example, if you score 9 out of 10 on one lab assignment, that counts as a grade of 90%; if you score 70 out of 100 on another lab assignment, that counts as a grade of 70%. If those were your only two lab assignments, your Lab Average would be 80% (the average of 70% and 90%), **not** 72% (79 out of 110 total points). The same principle applies to quizzes and midterm exam grades. Your Quiz Average (QA) will be calculated by averaging the percentage scores from each quiz, and your Lab Average (Lab) will be calculated the same way. Multiply each of your two highest midterm (HM) percentages by .15 and your lowest midterm (LM) percentage by .10. To calculate your overall grade, use the following formula:

$$(QA * .10) + (HM * .15) + (HM * .15) + (LM * .10) + (Lab * .25) + (Final Exam \% * .25)$$

This sum will be your total percentage grade in the course; use this figure to determine your letter grade in the course based on the Grading Scale listed above.

Grading Scale	
Grade	Range
A	>91%
A-	89-91%
B+	86-88%
B	82-85%
B-	79-81%
C+	76-78%
C	72-75%
C-	69-71%
D+	66-68%
D	62-65%
D-	59-61%
F	<59%

<u>Date</u>	<u>Reading Assignment</u>	<u>Ch:Pages</u>
Tue., Aug. 21	Introduction	1:1-14
Thu., Aug. 23	Basic Concepts	2:17-31
Tue., Aug. 29	Frequency Distributions and Graphs	3:35-55
Thu., Aug. 31	Measures of Central Tendency	4:63-76
Tue., Sep. 4	Basics of Variability	5:80-93
Thu., Sep. 6	Boxplots	5:94-107
Tue., Sep. 11	Normal Distribution and Frequency	6:111-120
Thu., Sep. 13	Standard Normal Distribution and $z$ -Tests	6:120-130
Tue., Sep. 18	<b>Exam 1</b>	<b>Ch. 1-6</b>
Thu., Sep. 20	Sampling Distributions and Null Hypotheses	8:156-169
Tue., Sep. 25	Hypothesis Testing	8:169-185
Thu., Sep. 27	Scatterplots and Correlation	9:188-201
Tue., Oct. 2	Factors that Affect Correlations	9:201-226
Thu., Oct. 4	Linear Regression	10:230-243
Tue., Oct. 9	Regression Predictions	10:243-262
Thu., Oct. 11	<b>Fall Break (no class)</b>	---
Tue., Oct. 16	Multiple Regression	11:268-285
Thu., Oct. 18	Residuals and Multiple Regression Examples	11:285-296
Tue., Oct. 23	<b>Exam 2</b>	<b>Ch. 8-11</b>
Thu., Oct. 25	Sampling Distribution of the Mean	12:301-317
Tue., Oct. 30	$t$ -test and Confidence Limits	12:317-332
Thu., Nov. 1	Comparing Two Samples	13:336-349
Tue., Nov. 6	Independent Sample $t$ -tests	14:353-362
Thu., Nov. 8	Heterogeneity of Variance and Examples	14:362-378
Tue., Nov. 13	<b>Career Day (no class)</b>	---
Thu., Nov. 15	ANOVA	16:406-427
Tue., Nov. 20	Post-hoc Tests	16:427-446
Thu., Nov. 22	<b>Thanksgiving Holiday (no class)</b>	---
Tue., Nov. 27	Factorial Designs	17:453-477
Thu., Nov. 29	<b>Leftover Material and Exam 3 Review</b>	---
Tue., Dec. 4	<b>Exam 3</b>	Ch. 12-14, 16-17

Thu., Dec. 6	<b>Final Exam Review</b>	Ch. 1-6, 8-14, 16-17
Thu., Dec. 13	<b>Final Exam, McDonald 104, 8:00-10:00 a.m.</b>	Ch. 1-6, 8-14, 16-17

## Syllabus Appendix

**This appendix is a required part of your syllabus. You are responsible for reading and understanding this part of the syllabus, just as you are required to read and understand the other portion of the syllabus.**

### Important Dates for Dixie State College Students, Fall 2012:

Monday, August 20, 2012: Semester classes begin  
Thursday, August 23, 2012: Last day to wait list  
Friday, August 24, 2012: Last day to add classes without instructor signature  
Monday, August 27, 2012: Drop/audit fee begins (\$10 per class)  
Monday, September 3, 2012: Labor Day (no classes)  
Tuesday, September 4, 2012: Financial charge of \$50 late registration/payment fee  
Monday, September 10, 2012: Last day for refund of tuition and fees  
Monday, September 10, 2012: Pell Grant Census  
Monday, September 10, 2012: Last day to drop without receiving a "W" grade  
Tuesday, September 11, 2012: Students dropped from classes for non-payment  
Friday, September 14, 2012: Last day to add/audit classes  
Monday, October 1, 2012: Graduation application deadline for Fall 2012  
Thursday-Friday, October 11-12, 2012: Fall Semester Break (no classes)  
Monday, October 15, 2012: Last day to drop/audit classes  
Thursday, November 1, 2012: Graduation application deadline for Spring 2013  
Friday, November 9, 2012: Last day for complete withdrawal  
Monday, November 12, 2012: Registration open for Seniors (90+ credits)  
Tuesday, November 13, 2012: Career day (most classes are cancelled)  
Tuesday, November 13, 2012: Registration open for Juniors (60+ credits)  
Wednesday, November 14, 2012: Registration open for Sophomores (30+ credits)  
Thursday, November 15, 2012: Open registration  
November 21-23, 2012: Thanksgiving Holiday (no classes)  
Friday, December 7, 2012: Last day of classes  
December 10-14, 2012: Final Exams scheduled

**Student Services:** Dixie State College (DSC) provides a variety of services to assist students in managing their academic progress while attending DSC. Among these services are:

Tutoring Center: See the Web site at <http://dsc.dixie.edu/tutoring/index.htm> for information regarding tutoring services available at DSC. Unfortunately, no tutoring services are available for Psychology courses, except for Statistical Methods (some semesters).

Testing Center: See their Web site at <http://new.dixie.edu/testing/> for information about how the testing center operates, including hours of operation. The Testing Center is located in the North Plaza (make sure you know how to find it). You will take all your midterm exams through the Testing Center in this course. You should know that there are a limited number

of computers in the Testing Center and rules for how and when you can take exams. **If, for any reason (including waiting for a computer), an exam is not completed before the time it is due you will receive a grade of 0 for that exam.**

Writing Center: See their Web site at [http://new.dixie.edu/english/dsc\\_writing\\_center.php](http://new.dixie.edu/english/dsc_writing_center.php) to learn about the Writing Center services. The Writing Center is located on the 4<sup>th</sup> floor of the new Holland Centennial Commons.

Disability Services: Students with medical, psychological, learning or other disabilities desiring reasonable academic adjustment, accommodations, or auxiliary aids to be successful in this class will need to contact the DISABILITY RESOURCE CENTER Coordinator (Baako Wahabu) for eligibility determination. Proper documentation of impairment is required in order to receive services or accommodations. The DRC is located next door to the Testing Center. Visit or call 652-7516 to schedule appointment to discuss the process. DRC Coordinator determines eligibility for and authorizes the provision of services.

Computer Labs: DSC provides a variety of computer labs for students to use. Please see the Information Technology website at <http://www.dixie.edu/reg/info-technology.html> for information regarding these services. If you do not have access to your own computer, these computer facilities will be very helpful so you can access course materials that are made available only through Blackboard Vista, and so you can access your Dmail account.

Computer Printers: In addition to established computer labs, there are computer stations located at various locations throughout campus where students can print documents and access other computer functions. These computer stations require users to stand up, so they are best used for brief computer functions, but they can be very handy. One is located on the 2<sup>nd</sup> Floor of the McDonald building.

Library: The DSC Library is located in the new Holland Centennial Commons. Their website, which lists hours of operation and has links to electronic resources and the course catalog, is at <http://library.dixie.edu/>.

Health and Wellness Center: The Health and Wellness Center is located slightly off campus—34 N. 600 E., just north of the cemetery on 600 East. The center has professional medical facilities, including four on-site mental health counselors. They can provide some care on site and can offer referrals for other medical or psychological problems. Students are charged \$10 for a visit, which includes lab work.

Dmail: “Important class and college information will be sent to your Dmail account. This information includes your DSC bill, financial and/or scholarship notices, notification of dropped classes, reminders of important dates and events, and other information critical to your success in this class and at DSC. All DSC students are automatically assigned a Dmail account. If you don’t know your username and password, go to [www.dixie.edu](http://www.dixie.edu) and select ‘Dmail,’ for complete instructions. You will be held responsible for information sent to your Dmail, so please check it often.”

**Academic Integrity:** Cheating of any kind is not tolerated. **You may not give information about quiz or exam questions to other students.** Students must take all quizzes and exams independently (without the help of others, except for appropriate disability services). For further information regarding student responsibilities related to academic integrity, please refer to Section 5.33.5 of the DSC policy, which can be viewed at

<http://www.dixie.edu/humanres/policy/sec5/533.html>. Other portions of this policy are also relevant, especially as they relate to fostering a learning environment that does not discriminate and is conducive to learning.

**Attendance Policy:** I expect you to attend class because I know it will help you in learning the material and obtaining a good grade, but I will not enforce this expectation other than requiring attendance at least once during the first week of school.