

Psychological Statistics
Psychology 301, Section 001
Bruce Brown
Fall Semester 2008
Monday/Wednesday/Friday 8:30 to 9:45 a.m.
Class in 341 MARB and Lab in 112 SWKT

date	day	topic	readings
September 3	Wednesday	Introduction to the Course	Chapter 1
September 5	Friday	<i>Preparation Day</i>	
September 8	Monday	Frequency Distributions and Graphs	Chapter 2
September 10	Wednesday	Measures of Central Tendency	Chapter 3
September 12	Friday	Lab	
September 15	Monday	Measures of Dispersion, Skewness, and Kurtosis	Chapter 4
September 17	Wednesday	Measures of Dispersion, Skewness, and Kurtosis	Chapter 4
September 19	Friday	Lab	
September 22	Monday	Correlation	Chapter 5
September 24	Wednesday	Correlation	Chapter 5
September 26	Friday	Lab	
September 29	Monday	Regression	Chapter 6
October 1	Wednesday	Regression (click here for spreadsheet on regression)	Chapter 6
October 3	Friday	Lab	
<i>Exam 1 in the Testing Center, Oct 3 to Oct 10 (Chapters 1 to 6). Sample Exam</i>			
October 6 (W)	Monday	Probability	Chapter 7
October 8	Wednesday	Probability	Chapter 7
October 10	Friday	Lab	
October 13	Monday	Random Variables and Probability Distributions	Chapter 8
October 15	Wednesday	Normal Distribution and Sampling Distributions	Chapter 9
October 17	Friday	Lab	

October 20	Monday	Statistical Inference: One Sample	Chapter 10
October 22	Wednesday	Statistical Inference: Other One-Sample Test Statistics	Chapter 12
October 24	Friday	Lab	
October 27	Monday	Statistical Inference: Two Samples	Chapter 13
October 29	Wednesday	Statistical Inference: Two Samples	Chapter 13
October 31	Friday	Lab	
November 3	Monday	Statistical Inference: Other Two-Sample Test Statistics	Chapter 14
November 5	Wednesday	Statistical Inference: Other Two-Sample Test Statistics	Chapter 14
November 7	Friday	Lab	
<i>Exam 2 in the Testing Center, November 7 to November 20, late day on 21st (Chapters 7 to 14).</i>			
November 10	Monday	Introduction to the Analysis of Variance	Chapter 15
November 12	Wednesday	Introduction to the Analysis of Variance	Chapter 15
November 14	Friday	Lab	
November 17	Monday	Other Analysis of Variance Designs (first half, correlated groups)	Chapter 16-1
November 19	Wednesday	Other Analysis of Variance Designs (first half, correlated groups)	Chapter 16-1
November 21	Friday	Lab	
November 24	Monday	Other Analysis of Variance Designs (second half, factorial ANOV)	Chapter 16-2
November 25	Tuesday	Other Analysis of Variance Designs (second half, factorial ANOV)	Chapter 16-2
November 27	Thursday	<i>Thanksgiving Holiday</i>	
December 1	Monday	Statistical Inference for Frequency Data	Chapter 17
December 3	Wednesday	Statistical Inference for Ranked Data	Chapter 18
December 5	Friday	Lab	
December 8	Monday	Review for Final Exam	
December 10	Wednesday	Review for Final Exam	

Final Examination

Monday, December 15, 2008, 7:00 to 10:00 a.m.

Text

Roger E. Kirk. *Statistics, An Introduction, Fifth Edition*. Fort Worth, Texas: Harcourt Brace College Publishers, 2008.

Syllabus Location on the Internet:

<http://psychology.byu.edu/faculty/blb6/Files/P301/p301sept08.htm>

Competencies

At the end of the semester you should have achieved these competencies:

- You should be able to explain the rationale of statistical significance tests as derived from the binomial.
- You should be able to read statistical notation in research reports, such as $F = 3.59$, $p < .05$.
- You should be able to calculate standard statistical quantities such as variance, standard deviation, means, correlation coefficients, etc., from memory.
- You should be able to calculate bivariate regression statistics from memory.
- You should be able to calculate t tests, z tests, and analysis of variance from memory.

End of Semester Critical Analysis: How could we have improved in achieving these competencies? Are there some of these that are not important, or are there others that should be included? What other approaches could be taken to the analysis of data? How could this science be improved?

Learning Outcomes

Each program at BYU has developed a set of expected student learning outcomes. These will help you understand the objectives of the curriculum in the program, including this class. To learn the expected student outcomes for the programs in the psychology department and college go to <http://learningoutcomes.byu.edu> and click on the College of Family, Home and Social Sciences and then the psychology department. We welcome feedback on the expected student learning outcomes. Any comments or suggestions you have can be sent to <FHSS@byu.edu>.

Requirements

I am interested in your class participation as well as your performance on the exams. You are expected to be current in your reading of the text, and to come to class prepared to discuss and ask questions. During each class period, I will occasionally call on one or more students to launch our discussion of a particular topic with a very brief summary or discussion of some of the ideas or concepts from the readings for that day. Your grade for class participation will come from this, supplemented by any other major contribution you make to class discussion. Attendance is also part of your participation grade.

For each of the chapters (except chapter 1) there are *hot links* in this online syllabus to study questions. The study questions are of two types: essay questions and computational questions. It will probably be most helpful to you if you first answer these questions without looking at the answers (to which there are links from this internet site), and then refer to the answers to check yourself. Please turn in your work on these questions each week in lab, and come to lab with any questions from this process. You will find these online questions and answers to be very helpful to you in preparing for the exams. They are quite similar to the actual examination questions, which are also of the two types, essay questions and computational questions.

If you wish to have additional practice, you may also do the practice problems in the book (since there are answers to them in the back of the book by which you can check yourself).

Grading

The final examination is comprehensive. Each examination will consist of a computational test and a concept/essay test. The two parts to each exam will count equally in creating your score for each of the three exams (two semester exams and a final exam).

The grading will not be on a curve, but rather on an absolute scale. There is the possibility of 500 points from exams and class participation:

- (1) The two examinations during the semester will be for 120 points each (total=240).
- (2) The final examination will be comprehensive and will be for 180 points.
- (3) Class participation, performance in the lab, and attendance will count for 80 points.

Your grade for the class will be the percent of your "earned points" compared to this total possible (the "A" range being 90% to 100%, the "B" range being 80% to 90%, etc).

Academic Integrity

"We believe in being honest, true, chaste, benevolent, virtuous, and in doing good to all men; indeed, we may say that we follow the admonition of Paul—we believe all things, we hope all things, we have endured many things, and hope to be able to endure all things. If there is anything virtuous, lovely, or of good report or praiseworthy, we seek after these things" (Article of Faith 13; see also Brigham Young University Honor Code in the BYU 2002-2003 Undergraduate Catalogue, pp. 21-24.)

Preventing Sexual Harassment

Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity receiving federal funds. The act is intended to eliminate sex discrimination in education. Title IX covers discrimination in programs, admissions, activities, and student-to-student sexual harassment. BYU's policy against sexual harassment extends not only to employees but to students as well. If you encounter unlawful sexual harassment or gender based discrimination, please talk to your professor; contact the Equal Employment Office at 378-5895 or 367-5689 (24-hours); or contact the Honor Code Office at 378-2847.

Students with Disabilities

Brigham Young University is committed to providing a working and learning atmosphere that reasonably accommodates qualified persons with disabilities. If you have any disability, which may impair your ability to complete this course successfully, please contact the Services for Students with Disabilities Office (378-2767). Reasonable academic accommodations are reviewed for all students who have qualified documented disabilities. Services are coordinated with the student and instructor by the SDD Office. If you need assistance or if you feel you have been unlawfully discriminated against on the basis of disability, you may seek resolution through established grievance policy and procedures. You should contact the Equal Employment Office at 378-5895, D-282 ASB.

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