# **Psychological Statistics** Psychology 308, Section 002

Psychology 308, Section 002 Bruce Brown, Joseph Harding, and Adam Montgomery Fall Semester 2017 Class: Monday/Wednesday 7:30-8:40 a.m., and Friday 7:30-7:50 in 102 SWKT Lab: Friday 7:30-8:40 a.m. in 102 SWKT

Date	day	topic	readings
September 6	Wednesday	Introduction to the Course and Basic Concepts (Topic 1)	BHHS 1
September 8	Friday	Central Tendency (Topic 2)	BHHS 2.1 to 2.3
September 11	Monday	Variability (Topic 3)	BHHS 2.4 and 3.3
September13	Wednesday	Correlation (Topic 4)	BHHS 2.5 and 3.3
September 15	Friday	Lab (Discuss Topics 2 & 3; Turn in Q&A for Topics 2 & 3)	
September18	Monday	Correlation (Topic 4); Graphics & Transformations (Topic 5)	BHHS 2.5 and 3.3
September 20	Wednesday	Correlation (Topic 4); T&L Topic 3, 4, and 5	bhhsX1
September 22	Friday	Lab (Discuss Topics 4 & 5; Turn in Q&A for Topics 4 & 5)	
September 25	Monday	Predicting Outcomes: Regression (Topic 6)	X2 & BOBSB 1.3
September 27	Wednesday	Predicting Outcomes: Regression (Topic 6)	X2 & BOBSB 1.3
September 29	Friday	Lab (Discuss Topic 6)	bhhsX2
October 2	Monday	Predicting Outcomes: Regression (Topic 6)	X2 & BOBSB 1.3
October 4	Wednesday	Predicting Outcomes: Regression (Topic 6); T&L Topic 6	X2 & BOBSB 1.3
October 6	Friday	Lab (Discuss Topic 6; <u>Turn in Q&amp;A for Topic 6</u> )	
	Exam 1 in the Testing Center, October 5 to October 12, Late Day October 13 (Topics 1 to 6)		
October 9	Monday	Probability (Topic 7)	BHHS2.6,bhhsX3
October 11	Wednesday	Probability (Topic 7)	bhhsX3
October 13	Friday	Lab (Discuss Topic 7)	
October 16	Monday	Probability (Topic 7)	BHHS2.6
October 18	Wednesday	Statistical Inference (Topic 8)	BHHS2.6

October 20	Friday	Lab (Discuss Topics 7 & 8; Turn in Q&A for Topic 7)	BHHS 2.6
October 23	Monday	Statistical Inference (Topic 8)	BHHS 2.6
October 25	Wednesday	Statistical Inference (Topic 8); T&L Topics 7 and 8	
October 27	Friday	Lab (Discuss Topic 8; Turn in Q&A for Topic 8)	BHHS 2.7
October 30	Monday	Seven <i>t</i> and <i>z</i> Tests (Topic 9)	BHHS 2.7
November 1	Wednesday	Seven <i>t</i> and <i>z</i> Tests (Topic 9)	
November 3	Friday	Lab (Discuss Topic 9)	BHHS 2.7
November 6	Monday	Seven <i>t</i> and <i>z</i> Tests (Topic 9); Confidence Intervals (Topic 10)	BHHS 2.7
November 8	Wednesday	Seven t and z Tests (Topic 9); T&L Topics 9 and 10	
November 10	Friday	Lab (Discuss Topics 9 and 10; <u>Turn in Q&amp;A for Topics 9 &amp; 10</u> )	
	Exam 2 in the Testing Center, November 10 to 16, Late Days November 17 and 18 (Topics 7 to 10).		
November 13	Monday	Simple Analysis of Variance, AV1 (Topic 11)	BHHS 2.8
November 15	Wednesday	Simple Analysis of Variance, AV1 (Topic 11)	BHHS 2.8
November 17	Friday	Lab (Discuss Topic 11; Turn in Q&A for Topic 11)	
November 20	Monday	Factorial Analysis of Variance, AV2 (Topic 12)	BHHS 9.3.1 (386)
November 21	Tuesday	Factorial Analysis of Variance, AV2 (Topic 12)	BHHS 9.3.1 (386)
November 27	Monday	Factorial Analysis of Variance, AV2 (Topic 12) ; T&L Topics 11 & 12	BHHS 9.3.1 (386)
November 29	Wednesday	Repeated-Measures (Topic 13)	Handout 1
December 1	Friday	Lab (Discuss Topics 12 & 13; Turn in Q&A for Topic 12)	
December 4	Monday	Repeated-Measures (Topic 13)	Handout 1
December 6	Wednesday	Categorical Data: Chi Square and Loglinear Analysis (Topic 14)	BHHS 9.6.1 (429)
December 8	Friday	Lab (Discuss Topics 13 & 14; Turn in Q&A for Topic 13 & 14)	
December 11	Monday	T&L Topics 13 and 14	
December 13	Wednesday	In-Class Review for Final Exam	

# **Final Examination**

Tuesday, December 19, 2017, 7:00 to 10:00 a.m. (BYU Final Exam Policy: "Examinations are not given early.")

#### Text for the Course

Brown, B. L., Hendrix. S. B., Hedges, D. W., and Smith, T. B. (2012). *Multivariate analysis for the Biobehavioral and Social Sciences*. Hoboken, N. J.: John Wiley & Sons, Inc.

## **Psychology Department Learning Outcomes for Psychology 308**

1. Students will be able to recognize and understand basic statistical notation, formulae, and concepts.

Measurement: Multiple choice tests, short essays.

2. Students will be able to accurately speak and write about statistical formulae, concepts, analyses, and results.

Measurement: Short essays.

3. Students will be able to correctly select and use basic statistical formulae and appropriately interpret the results.

Measurement: Multiple choice tests, short essays.

#### Additional Learning Outcomes for This Psychology 308 Class (Section 001)

By 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.

#### Requirements

I am interested in your class participation as well as your performance on the exams. You are expected to come to class having read the day's material, and to take an active role in the teaching and learning groups. 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 there are study questions. The study questions are of two types: essay questions and computational questions. Please turn in your work on these questions each week in lab, and come to lab with any questions from this process. You will then be given in the lab detailed answers to the questions to use in your studies. You will find these 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.

## 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 <u>not</u> be on a curve, but rather on an absolute scale. There is the possibility of 600 points from exams and class participation:

- (1) The two examinations during the semester will be for 110 points each (total=220).
- (2) The final examination will be comprehensive and will be for 160 points.
- (3) Class participation and attendance will count for 80 points.
- (4) Performance in the lab will count for 140 points (Q&A homework 90, lab attendance 30, matrix project 20).

Your grade for the class will be the percent of your "earned points" compared to this total possible (the "A" range being 95% to 100%, the "A-" range being 90% to 95%, the "B+" range being 87% to 90%, the "B" range being 83% to 87%, the "B-" range being 80% to 83%, etc.

# Academic Honesty

BYU students should seek to be totally honest in their dealings with others. They should complete their own work and be evaluated based upon that work. They should avoid academic dishonesty and misconduct in all its forms, including plagiarism, fabrication or falsification, cheating, and other academic misconduct. Students are responsible not only to adhere to the Honor Code requirement to be honest but also to assist other students in fulfilling their commitment to be honest. (A complete version of the Academic Honesty Policy is available at honorcode.byu.edu)

# **Preventing Sexual Harassment**

Title IX of the Education Amendments of 1972 prohibits sex discrimination against any participant in an educational program or activity that receives federal funds. The act is intended to eliminate sex discrimination in education and pertains to admissions, academic and athletic programs, and university-sponsored activities. Title IX also prohibits sexual harassment of students by university employees, other students, and visitors to campus. If you encounter sexual harassment or gender-based discrimination, please talk to your professor; contact the Equal Employment Office at 801-422-5895 or 1-888-238-1062 (24-hours), or http://www.ethicspoint.com; or contact the Honor Code Office at 801-422-2847.

# **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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