

EDUC/PSY 6600
Research Design & Analysis I
Spring Semester 2009

Instructor: Joseph M. Baker, M.A.

Course Location: VSB 213

Office: HSRC, Room 004

Course Time: M & W, 4:30-5:45

Phone: 435-757-4302

Office Hours: T & TH, 3:00 – 4:00

E-Mail: jbpsy1@gmail.com

or by appointment

Blackboard: Please check Blackboard frequently for course updates, assignments, & grades.

Note: I reserve the right to correct any errors on or omissions from the syllabus.

Textbook:

Cohen, B. H. (2008). *Explaining Psychological Statistics (3rd Ed.)*. New York: Wiley.

Abelson, R. P. (1995). *Statistics as Principled Argument*. Psychology Press

Recommended Materials:

Scientific calculator

Flash drive

Lecture Notes:

Copies of the lecture notes may be downloaded from the course Blackboard page. You need to print the relevant material **before** class and bring the notes to class.

Purpose of Course:

Research Design & Analysis I is designed to provide the student with a practical, applied approach to the application of fundamental behavioral and educational research design and statistical principles. Students will learn how to differentiate and appropriately select the best statistical methods for use in various research designs and analytical problems. This course will mostly focus on basic statistical techniques and several forms of the ANOVA model, which can be used by themselves or serve as building blocks for more advanced techniques in other courses.

Prerequisites and Pretest:

There are two prerequisites for EDUC/PSY 6600: 1) Completion of EDUC/PSY 6570 "Introduction to Educational & Psychological Research" (or an approved equivalent) and 2) passing the EDUC/PSY 6600 pretest (70% or better). These prerequisites are mandated by the College of Education & Human Services to ensure that each student has the necessary background knowledge to be successful in this course. EDUC/PSY 6570 must be completed with a passing grade prior to enrolling in EDUC/PSY 6600, precluding concurrent enrollment.

Course Structure:

This is a lecture and applied skills course. Students will be expected to demonstrate their learning via classroom participation, assignments, and examinations. The purpose of class lectures is to elaborate on interesting or difficult material presented in the text, conduct skill-building exercises and demonstrations, and to provide a forum for discussion.

Class Preparation and Attendance:

The demanding nature of this course requires regular class attendance and participation. The student is therefore expected to read assigned chapters and any assigned reading BEFORE each class session in order to be prepared for classroom activities and discussion. Please note that this is a 3-credit course, requiring an average of approximately 9 hours of time outside of class per week devoted to reading and homework for students who are adequately prepared for this course. Students should not miss class lectures as some material covered in class will not be covered in the text. All information covered in the text and lectures is fair game for examination questions. The Instructor encourages all students who have or anticipate attendance difficulties to discuss these issues with him.

Grading Policy

Grading		Final Course Grade			
Best 4 of 5 exams	4@100=400	A	= 900+ points	C-	= 700 to 719 points
HW Assignments	8@50=400	B+	= 880 to 899 points	D+	= 680 to 699 points
Chapter Reviews	8 of 9@25=200	B	= 820 to 879 points	D	= 620 to 679 points
Total Points Possible	1000	B-	= 800 to 819 points	D-	= 600 to 619 points
		C+	= 780 to 799 points	F	= 0 to 599 points
		C	= 720 to 779 points		

Tentative Topics to be Covered (in order)

1. Statistics Review
2. Graphs and Frequency Tables
3. Measures of Central Tendency
4. Measures of Variability
5. Z scores and Normal Distribution
6. Probability
7. Sampling Distributions
8. Hypothesis Testing
9. Power and Effect Size
10. One Sample t Test
11. t test for dependent samples
12. t test for independent samples
13. Welch t test for independent samples
14. One-way ANOVA and Tukey pairwise comparisons
15. Two-way ANOVA and Tukey pairwise comparisons
16. Repeated Measures and Mixed-Design ANOVA
17. Correlation and Regression
18. Chi-square Tests

Miscellaneous

Change in Assignments and Schedule

The Instructor reserves the right to make changes to this syllabus at any time. Changes will be announced in class and posted on Blackboard

Students

Several assignments in this course require English composition. If you feel you need assistance, please visit the USU Writing Center. They have tutors available to help: <http://writingcenter.usu.edu>.

Academic Integrity- “The Honor System”

Each student has the right and duty to pursue his or her academic experience free of dishonesty. The Honor System is designed to establish the higher level of conduct expected and required of all Utah State University students.

The Honor Pledge: To enhance the learning environment at Utah State University and to develop student integrity, each student agrees to the following Honor Pledge: “I pledge, on my honor, to conduct myself with the foremost level of academic integrity.” A student who lives by the Honor Pledge is a student who does more than not cheat, falsify, or plagiarize. A student who lives by the Honor Pledge:

- Espouses academic integrity as an underlying and essential principle of the Utah State University community;
- Understands that each act of academic dishonesty devalues every degree that is awarded by this institution; and
- Is a welcomed and valued member of Utah State University.

Plagiarism

Plagiarism includes knowingly “representing, by paraphrase or direct quotation, the published or unpublished work of another person as one’s own in any academic exercise or activity without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers or other academic materials.” The penalties for plagiarism are severe. They include warning or reprimand, grade adjustment, probation, suspension, expulsion, withholding of transcripts, denial or revocation of degrees, and/or referral to psychological counseling.

Sexual Harassment

Sexual harassment is defined by the Affirmative Action/Equal Employment Opportunity Commission as any “unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature.” If you feel you are a victim of sexual harassment, you may talk to or file a complaint with the Affirmative Action/Equal Employment Opportunity Office located in Old Main, Room 161, or call the AA/EEO Office at 797-1266.

Students with Disabilities

Qualified students with disabilities may be eligible for reasonable accommodations. If a student has a disability that will likely require some accommodation by the instructor, the student must contact the instructor and document the disability through the Disability Resource Center (797-2444)

Date	Topics in order (Tentative)	Reading	Assignemnt Due	Exam Date
5-Jan	Syllabus Overview/Statistics Review	C-1		
7-Jan	Graphs	C-2		
12-Jan	Tendency & Variability	C-3		
14-Jan	Tendency & Variability	C-3	Ableson 1	
19-Jan	MLK Day-- No Class			
21-Jan	Probability	C-3 (pg. 116)	HW1	
26-Jan	Distribution & Central Tendency	C-4		Exam 1
28-Jan	SPSS Overview		Ableson 2	
2-Feb	Z-score	C-4	HW2	
4-Feb	Hypothesis Testing	C-5		
9-Feb	Hypothesis Testing	C-5	Ableson 3	
11-Feb	Power & Effect Size	C-8	HW3	
16-Feb	Pres. Day-- No Class			
17-Feb	One-Sample t Test	C-6	Ableson 4	
18-Feb	Independent Sample t Test	C-7	HW4	
23-Feb	Dependent Sample t Test	C-11		Exam 2
25-Feb	Welch t Test for Independent Samples		Ableson 5	
2-Mar	ANOVA	C-12		
4-Mar	ANOVA	C-12	HW5	
9-Mar	Spring Break-- No Class			
11-Mar	Spring Break-- No Class			
16-Mar	ANOVA	C-12	Ableson 6	
18-Mar	Two-Way ANOVA	C-14		
23-Mar	Two-Way ANOVA	C-14	HW6	
25-Mar	Two-Way ANOVA	C-14		Exam 3
30-Mar	Mixed Design ANOVA	C-16	Ableson 7	
1-Apr	Mixed Design ANOVA	C-16		
6-Apr	Correlation & Regression	C-17	Ableson 8	
8-Apr	Correlation & Regression	C-17	HW7	
13-Apr	Chi Square	C-20		
15-Apr	Chi Square	C-20	Ableson 9	
20-Apr			HW8	
22-Apr	Last Day of Class			Exam 4
27-Apr - 1-May	Finals Week			Final Exam 5