

Advanced Statistics
PSYC 4317, Fall 2014
TTH 9:00-10:20 a.m., PSYC 105

Course Syllabus

Instructor: Julia Lechuga, Ph.D.
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Office Hours: Psychology building room 107 MW 1:30-2:20 a.m., or by appointment.
Textbooks: *Applied Statistics: From Bivariate through Multivariate Techniques*, 2nd edition (2013) by Rebecca M. Warner. Sage Publications.

General Course Goals: This course is designed to be an intensive investigation into statistical analyses commonly used in Psychology and other social-behavioral sciences. Topics include alternative correlation coefficients, Reliability & Validity, Multiple Regression, Hierarchical Regression, Principle Component Analysis, Factorial Analysis, Factorial ANOVA, ANCOVA, MANOVA, Repeated Measures ANOVA, and additional topics if time permits.

Prerequisite for the course is Basic Statistics or equivalent. In addition, the course will be computer intensive using SPSS. Students are expected to be familiar with basic statistical issues such as Z-scores, properties of the normal distribution, variance & standard deviations, standard error, measures of central tendency, t-tests, and one-way ANOVA with post hoc comparisons.

The main goals of this course are to (a) expose the student to advanced statistical techniques (b) make the student proficient in the techniques, (c) give the student the expertise to “think” about appropriate statistical techniques for the problems they will face in-an-out of the academic settings, and (d) give the student exposure to different analytic strategies. This course is analysis and writing intensive.

Specific Course Objectives:

1. Acquire ability to understand and explain to others the statistical analyses in reports of psychological research.
2. Preparation for more advanced course in statistical methods.
3. Acquire ability to identify the appropriate statistical procedure for basic and advanced research situations.
4. Further develop your quantitative and analytic thinking skills.
5. Acquire ability to use SPSS to conduct basic and advanced statistical analysis.

Evaluation

Your final grade for this course will be based on the following components:

Statistical Literacy Packets: During class sessions you will be assigned to a group and will read, summarize, and critique a research article.

Project write up: See attached sheet of instructions.

Homework: Homework assignments will include web-based videos and exercises.

In class group assignments: These will be scheduled during class sessions and will serve the purpose of helping you practice statistical procedures.

Quizzes: There will be random quizzes during the semester. Quizzes will include concepts and calculations. *The two lowest quiz grades will be dropped.* Statistical tables will be provided and calculators may be used when required.

Exams: There will be **three hourly exams** during the semester and a **final comprehensive examination** which is scheduled December 9th from 10:00 am to 12:45 pm. Statistical tables will be provided as needed. Calculators may be used on exams.

MAKE-UPS: Make-up tests or quizzes will *only* be given for **legitimately documented** reasons. Arrangements **must** be made **prior** to the scheduled examinations (except for emergencies, which I **must** be notified of right away, by phone or e-mail)!

Full credit on assignments and exam problems: You need to show your justification for or work on each homework or exam problem. Answers without work will **not** receive full credit.

Final Grade:

Your final course grade will be based on the following weighting of assessment components: Quizzes will be 10% of your grade, in-class assignments 15%, homework 15%, computer lab exercises 10%, exams 20%, statistical literacy packets 10%, and the project write up 20%.

Total Possible Points:

Statistical Literacy Packet:.....	40 points (each article summary is worth 20 points) (group)
Project write up:.....	60 points
Introduction... 10 pts	
Method..... 25 pts	
Results..... 25 pts	
Poster.....	30 points (group)
Introduction..... 5 pts	
Method..... 10 pts	
Results..... 10 pts	
Discussion..... 5 pts	
In class assignments.....	assigned points will vary (group)
Homework.....	assigned points will vary
Quizzes:	each will be worth 5 points (group)
Exams:	assigned points will vary
FINAL EXAM:.....	100 points

Final course grades will be assigned based on the following grading scale

A	B	C	D	F
100 - 90	89 - 80	79 - 70	69 - 60	59 - 50

Attendance and Participation: In order to do well in the class, attendance is essential. Class participation will be expected.

Calculators: A calculator (with statistical functions) may be used for homework, quizzes, and exams. No cell phone calculators will be allowed during quizzes and exams.

Cell phones: Cell phones must be either turned off or put on vibrate during class, as cell phones ringing during class disrupt the learning process.

Disabilities: If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS website at www.sa.utep.edu/cass. They will give you the proper paperwork to turn in to me. Please do this as soon as possible.

Note: Schedule is subject to changes

Class Schedule
January/February 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Aug 25	Aug 26	Aug 27	Aug 28	Aug 29	Aug 30
		Syllabus Review Conceptual Review		Conceptual review HWK 1 Due		
Aug 31	Sept 1	Sept 2	Sept 3	Sept 4	Sept 5	Sept 6
		SPSS Review		SPSS Review		
Sept 7	Sept 8	Sept 9	Sept 10	Sept 11	Sept 12	Sept 13
		Ch 8 : Alternative Correlation Coefficients		Ch 8 : Alternative Correlation Coefficients		
Sept 14	Sept 15	Sept 16	Sept 17	Sept 18	Sept 19	Sept 20
		Computer Lab HMW 2 Due		Statistical Literacy Packet 1		
Sept 21	Sept 22	Sept 23	Sept 24	Sept 25	Sept 26	Sept 27
		Chapter 10: Adding a third variable		Chapter 10: Adding a third variable		
Sept 28	Sept 29	Sept 30	Oct 1	Oct 2		
		Computer Lab		Statistical Literacy Packet 2		

Class Schedule

Mar/April 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		Oct 7 EXAM 1 HMW 3 Due	Oct 8	Oct 9 Chapter 12: Dummy predicted variables and interactions	Oct 10	Oct 11
Oct 12	Oct 13	Oct 14 Chapter 12: Dummy predicted variables and interactions	Oct 15	Oct 16 Computer Lab HMW 4 Due	Oct 17	Oct 18
Oct 19	Oct 20	Oct 21 Chapter 14: Multiple Regression	Oct 22	Oct 23 Chapter 14: Multiple Regression	Oct 24	Oct 25
Oct 26	Oct 27	Oct 28 Computer lab session	Oct 29	Oct 30 EXAM 2	Oct 31	Nov 1
Nov 2	Nov 3	Nov 4 Chapter 19: Reliability & validity	Nov 5	Nov 6 Chapter 19: Reliability & validity	Nov 7	Nov 8
Nov 9	Nov 10	Nov 11 Computer lab session HMW 5 Due	Nov 12	Nov 13 Statistical literacy packet	Nov 14	Nov 15

Class Schedule Apr/May 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Nov 16	Nov 17	Nov 18 EXAM 3	Nov 19	Nov 20 Chapter 13: Factorial Analysis	Nov 21	Nov 22
Nov 23	Nov 24	Nov 25 Chapter 13: Factorial Analysis	Nov 26	Nov 27 Thanksgiving Holiday	Nov 28	Nov 29
Nov 30	Dec 1	Dec 2 Computer Lab HMW 6 Due	Dec 3	Dec 4 Poster due Project write up due	Dec 5 Dead Day	Dec 6
Dec 7	Dec 8	Dec 9 Final Exam 10:00-12:45	Dec 10	Dec 11	Dec 12	Dec 13
Dec 14	Dec 15	Dec 16	Dec 17	Dec 18	Dec 19	Dec 20
Dec 21	Dec 22	Dec 23	Dec 24	Dec 25	Dec 26	Dec 27

Project Write Up

You are expected to analyze and write up a manuscript on APA style using made-up data from a mock research study. The study may be a descriptive or experimental study. Essentially, you will be assigned a data set and are to write up an **APA style** report of the study.

You will turn in a written report individually. This report must be your own work. Furthermore, you will present a poster with your team in an in-class session. The poster must include title, introduction, method, results, and discussion. The individual report must include a title page, an introduction section, a method section, a results section, and a reference section. The report does *not* need to have an abstract or discussion section.

Purposes:

1. To show that you know APA style.
Even if you do not go on to graduate school, the ability to write a report that looks professional and does not waste words (two hallmarks of APA style) should serve you well.
2. To develop a better understanding of how articles are organized.
Once you understand what should be included in each section of the paper, you should have an easier time understanding articles that you read.

Poster: developed in power point (instructor will conduct a session), to be printed at Technology Support Center located in the Library Room 300.

Report: It should be about 6 pages long, although a paper with a perfect score could be as short as 4 pages or as long as 8 pages. Most papers will be 5 to 6 pages long.

Due Date: The poster and report is due Dec 4th.