

Sam Houston State University
Department of Psychology and Philosophy

PSYC 5387: Advanced Statistics
3 Graduate Credit Hours
Spring 2018

Instructor	Justin P. Allen, Ph.D., N.C.S.P.	Class Location	CHSS 249
Office	CHSS 323	Class Time	Mondays
Phone	936-294-1177		9:00 – 11:50 am
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Office Hours	Mondays 1:00 – 4:00 pm or by appointment		

University Mission

Sam Houston State University provides high quality education, scholarship and service to qualified students for the benefit of regional, state, national, and international constituencies.

Text

Gravetter, L. B., & Wallnau, L. B. (2017). *Statistics for the Behavioral Sciences*. (10th Ed.), Belmont, CA: Cengage. ISBN 9781305504912

*Additional readings as assigned

Course Description

This course is an advanced study of the use of statistical methods as tools for inferential hypothesis testing. It includes consideration of data screening, effect sizes, and simple effects tests. It also provides an introduction to multiple regression. Prerequisite: PSYC 3301 or equivalent.

Course Objectives

After successfully completing this course students will master basic statistical concepts and techniques including technique selection, computational procedures, results interpretation, and reporting procedures. Students will also gain basic skills in conducting computer-based analyses using field-standard statistical software. By the end of this course, students will be able to:

- Describe and interpret basic statistical concepts such as frequency distributions, measures of central tendency, variability, and probability.
- Identify and describe the differences between p values and effect sizes.
- Describe and interpret multiple statistical techniques including methods used to examine relationships between and within groups.

Missed Assignments & Assessments

Missed assignments or exams may be completed once students have obtained verification from the Dean of Student's office.

Assignments and Exams

This course will include a class presentation and multiple in-class assignments. The assignments (including presentations) and exams will require students to apply statistical procedures and may require the use of statistical software such as Excel, SPSS, or R. Students must present results in APA style 6th edition. There will be three exams during the semester (two regular, one final).

Class Presentation

Students will work in small groups to select and review a statistical technique covered in this course. Students will work together to identify a published research manuscript that uses the selected statistical technique within clinical or school psychology. Additional details regarding this project will follow in a separate document.

Evaluation

The final grade in this course will be a weighted average of exam grades and assignments. Exams will consist of 60% of the final grade while assignments will consist of 40%. Participation will be considered in cases of borderline grades.

Letter grades in this course will be based on the following scale:

A= 90 to 100

B= 80 to 89

C= 70 to 79

D= 60 to 69

F = 59 and below

STUDENT ABSENCES ON RELIGIOUS HOLY DAYS POLICY

Section 51.911(b) of the Texas Education Code requires that an institution of higher education excuse a student from attending classes or other required activities, including examinations, for the observance of a religious holy day, including travel for that purpose. Section 51.911 (a) (2) defines a religious holy day as: "a holy day observed by a religion whose places of worship are exempt from property taxation under Section 11.20..." A student whose absence is excused under this subsection may not be penalized for that absence and shall be allowed to take an examination or complete an assignment from which the student is excused within a reasonable time after the absence.

University policy 861001 provides the procedures to be followed by the student and instructor. A student desiring to absent himself/herself from a scheduled class in order to observe (a) religious holy day(s) shall present to each instructor involved a written statement concerning the religious holy day(s). The instructor will complete a form notifying the student of a reasonable timeframe in which the missed assignments and/or examinations are to be completed.

DISABLED STUDENT POLICY

It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail disability@shsu.edu). They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities. All the information you need can be located here: <http://www.shsu.edu/dept/disability/>

For current information regarding university guidelines involving classroom visitors and academic dishonesty please visit <http://www.shsu.edu/syllabus/>

Emergency Planning:

If campus must be closed due to an emergency scenario (e.g. severe weather, electrical outage, epidemic) please refer to KatSafe Communications system. Information on this system can be located at <http://www.shsu.edu/katsafe/event-preparation/katsafe-communications-instructions>. If campus closes, we will not meet for the disrupted period; but, will resume the course after the campus reopens (university calendar permitting).

Decorum:

In accordance with university guidelines, students will assist in maintaining a classroom environment that is conducive to learning. Mutual respect and courtesy are the minimal expected standards.

Important dates for all courses at SHSU:

First day of spring semester: January 17, 2018

Last day to drop a course without a "Q": April 6, 2018

Last day of spring semester: May 4, 2018

Course Schedule†

Date	Topic	Chapter(s)
01/22	Introduction and Course Overview	1
01/29	Review of Descriptive Statistics	2-4
02/05	Foundations of Inferential Statistics	5-7
02/12	Hypothesis Testing, Effect Sizes, & Power Analysis	8*
02/19	The <i>t</i> -Statistic	9-10
02/26	The <i>t</i> -Statistic continued – Exam 1	10-11
03/05	Introduction to Analysis of Variance	12
03/12	<i>Spring Break</i>	
03/19	Repeated-Measures Analysis of Variance	13
03/26	Two-Factor Analysis of Variance	14
04/02	Analysis of Covariance	*
04/09	Exam 2 – Correlations	15
04/16	Correlations and Nonparametric Tests	15-18
04/23	Nonparametric Tests	16-18
04/30	Introduction to Advanced Topics (Bootstrapping, Multivariate, SEM, Meta-Analysis)	*
05/07	Final Exam	

†This schedule is subject to change as the needs of the class become apparent.

*Assigned readings (see posting in blackboard)

Instructor Biography: Dr. Allen obtained a Ph.D. at the University of Kansas in School Psychology with a minor Quantitative Methodology. Prior to joining the faculty at Sam Houston State University, he worked in the Leavenworth public school district in Leavenworth, KS and at the National Center for Response to Intervention (consortium) at the University of Kansas. Additional information can be found at https://www.researchgate.net/profile/Justin_Allen6