Advanced Statistics

3 Hours of Academic Credit
AB4 301   T/Th 3:30 - 5:00

Prof: Dr. Rowland Miller   miller@shsu.edu
Office hours: Monday, 2:00 - 4:00; T/Th, 1:30 - 3:00   AB4 329   294-1176
                      Other days and times by appointment

Texts: Gravetter, F. J., & Wallnau, L. B. (2007). *Essentials of statistics for the behavioral sciences*
          (6th ed.). Belmont, CA: Wadsworth. (ISBN: 978-0-495-38394-9)

          Kirkpatrick, L. A., & Feeney, B. C. (2006). *A simple guide to SPSS® for Windows® for version*
          14.0 (8th ed.). Belmont, CA: Wadsworth. (ISBN: 978-0-495-31863-7)

Schedule	Topic	Readings: G&W	SPSS
1/17	Intro: Statistics is our friend	Chap 1	1 - 5
1/22 - 1/29	Variability and Probability	3 - 6	
1/31 - 2/5	Cleaning up our act	2	6
2/7	**First Exam**		
2/12	The CLT	7	
2/14 - 2/26	Hypothesis Testing	8	
2/28	**Second Exam**		
3/4	One-sample *t*-test	9	7
3/6 - 3/18	Independent samples *t*	10	8
3/20	Related samples *t*	11	9
3/25	**Third Exam**		
3/27 - 4/1	ANOVA	13	10
4/3-4/15	Repeated measures and factorial ANOVAs	14	11 - 12
4/17	**Fourth Exam**		
4/22-5/6	Correlation and regression	pp. 411 - 431; 438 - 453	14 - 16
5/3	Chi square	16	17
5/13	**Fifth Exam** (@ 2:00)		

<u>Notes and News</u>

This course provides advanced study of the use of statistical methods as tools for inferential statistics. It builds on introductory courses by including consideration of data screening, effect sizes, and simple effects tests. It also provides an introduction to multiple regression.

The five exams will each comprise one-fifth of your course grade. There will be frequent homework assignments, but they will not formally count towards your grade in the course; instead, mastery of homework material will be evaluated on the exams, which will typically include questions that closely resemble those assigned as homework. The exams will include both open- and closed-book inquiries, as well as procedures on SPSS, which will be evaluated in take-home assignments due on the exam day.   Friday, March 7, is your last chance to exit the course without receiving a grade. Class attendance is not required, but no classes should be missed if you desire my sympathy in borderline grading decisions.

Please read your chapters in advance of each class. I will assume that you have, and that you already know what material is causing you grief. I'll seek to reinforce and amplify, not duplicate, the text's coverage. Some required readings for the second unit of the class will also be available on electronic reserve.

<u>The Small Print</u>: SHSU proudly 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 adversely affect your work in this class, I encourage you to register with the SHSU Counseling Center and to talk with me about how I can best help you. Your disclosure of any disability will be kept strictly confidential, of course; however, no accommodation can be made until you register with the Counseling Center.

The University Code of Student Conduct and Discipline, Section 5.3, states that you are expected "to engage in all academic pursuits in a manner that is above reproach and to maintain complete honesty and integrity both in and out" of the classroom. Disciplinary action that will involve failure of, and expulsion from, our course will be initiated against any student accused of any form of academic dishonesty.

If you miss an exam in order to observe a religious holy day, I will happily provide you the exam on the following Monday at 2:00. However, University policy requires you to notify me in writing of your wish to be absent due to religious holy days. Please plan ahead, and, for more info on this and the other policies mentioned above, feel free to check out our official University guidelines at www.shsu.edu/syllabus.

Decorum-wise: Please manage your cell phone with grace and consideration for the rest of us.

You'll be asked to provide a formal evaluation of me and my course near the end of the semester.

Finally, welcome. I have chosen to teach this course, and I take great pleasure in (trying to) make things plain. It's a course in which later topics continually build on prior ones, however, so it's essential that you invest the effort and energies to master each new procedure. I should also note that, in order to serve you better, I have revised the content of the course; so, the syllabus and its dates are open to modification as our progress through the new-and-improved course takes shape.

<u>Course Objectives</u>

     1. Students will be able to master basic statistics, understanding how to compute them, when to use them, and how to interpret them.

     2. Students will be able to conduct computer-based statistical analyses with SPSS, both implementing procedures and correctly interpreting results.