EDUR 8132
Educational Statistics II
Fall 2013

Bryan W. Griffin

Office Information

Contact Hours

Varies for on-line courses, therefore it is best to contact me electronically to arrange an appointment.

Telephone Numbers

Office (Room 2128 College of Education Building): 912-478-0488 (don't use, contact me electronically)
Department of Curriculum, Foundations, and Research: 912-478-5091
Department of Curriculum, Foundations, and Research, FAX: 912-478-5382

E-Mail

Use Folio mail to contact me. If Folio mail is not working, my regular e-mail address is bwgriffin@GeorgiaSouthern.edu, but please use Folio mail for course-related communications.

Mail

Department of Curriculum, Foundations, and Reading
P.O. Box 8144
College of Education
Georgia Southern University
Statesboro, GA 30460

Catalogue Description of EDUR 8132

This is an advanced statistics in education course that extends knowledge of educational research situations and statistical procedures beyond EDUR 8131. Emphasis is placed on more complex analysis of variance procedures (e.g., repeated measures, analysis of covariance), multiple regression analysis and multiple dependent variable techniques (e.g., canonical correlation) as applicable to current educational research problems. Prerequisite: EDUR 8131 or equivalent.

Course Material

Required Text

Agresti, A. & Finlay, B. (2009). Statistical methods for the social sciences (4th ed.). Pearson/Prentic Hall. (Note that 3rd edition will also suffice for this course and may be cheaper if found used on-line)

- Agresti's page, with links book data files, can be found here: http://www.stat.ufl.edu/~aa/
- Agresti's statistics 2 course page: http://www.stat.ufl.edu/~aa/sta6127/index.html

Course Web Site

The course web site contains detailed topic notes, activities, supplemental reading, video and static tutorials, example statistical presentations, and course announcements. The site may be found at the following address:

http://www.bwgriffin.com/gsu/courses/edur8132/

Software

SPSS (PASW) Version 10.0 or higher. The latest version IBM/SPSS Statistics Base for Windows can be rented for 6 months for about $40 from this site (cost is higher for MAC version):

http://www.onthehub.com/spss

Course Content and Objectives

Content Covered (see Course Index and Course Calendar on the course web site for assigned readings, supplemental readings, and date topics are covered: http://www.bwgriffin.com/gsu/courses/edur8132)

1. Introductory Review
    a. Central Tendency
    b. Variability
    c. Correlation
    d. t-test
    e. Hypothesis Testing
2. Regression Models
    a. One Quantitative Predictor
    b. Multiple Quantitative Predictors
    c. Model fit; Semi-partial Correlation (ΔR^2); Effect Size
    d. Standardized Regression Equation
    e. One and Multiple Qualitative Predictors
    f. Both Quantitative and Qualitative Predictors
    g. Sample Size Determination
    h. Reading and Interpreting Published Results
3. ANOVA Models
    a. One-way ANOVA, Multiple Comparisons
    b. Multi-way ANOVA without and with Interactions
    c. Multiple Comparisons and Simple Main Effects in Multi-way ANOVA
    d. ANCOVA with Multiple Groups
    e. ANCOVA with Factor × Covariate Interaction
    f. Multiple Comparisons and Simple Main Effects in ANCOVA
    g. Sample Size in ANOVA/ANCOVA
4. If time permits, some of the following topics may be covered:
    a. Interactions in Regression; Simple Slopes Analysis
    b. Polynomial Regression
    c. Common Research Designs and Related Statistical Analyses (e.g. Post-test only control, Pretest-posttest control, Non-equivalent control group, etc.)
    d. Repeated Measures ANOVA
    e. Logistic Regression
    f. Factor Analysis

Following presentation of the above content, students should be able to analyze complex data using, as appropriate, various regression and ANOVA models; perform these analyses in relevant statistical software (e.g., SPSS); read and interpret results based upon regression and ANOVA models; and produce APA (American

Psychological Association) styled output with corresponding written inference and interpretation for written reports.

Course Calendar

Given that the course calendar may change weekly subject to the pace of content coverage, the course calendar is not listed here, however a detailed and current calendar can be found at the Course Web Site, linked below:

http://www.bwgriffin.com/gsu/courses/edur8132

Content Delivery

This course is taught by a combination of live on-line video chat sessions, recorded video presentations, and other on-line content. During live video chats students will be able to hear the instructor and see the instructor's computer desktop. The live video of the instructor's desktop is used much like a white board in a live face-to-face class. Course content, outline of nightly topics and detailed notes, and data analysis with statistical software will be presented and illustrated via video and live lecture during chat sessions. Each chat session will be recorded, if possible, for later review. In addition to the live video chat sessions, other instructional video and static tutorials are available on-line, and detailed course notes and exercises are also available. A forum discussion board will be used to enable questions and answer sessions, and to post announcements, so all may participate when live chats are not in session.

Grading, Assessments, and Course Activities

There will be three tests administered during the term. Each test will focus on conceptual components of statistical analysis, computer applications, choice of statistical procedures, and written results and interpretations. Tests are normally posted about 5 days before responses are due so students have ample time to complete each test.

Each test will be weighted equally at 1/3 of the final grade. Final grades will be assigned based on the following table:

90 and above	= A
80 to less than 89.999	= B
70 to less than 79.999	= C
60 to less than 69.999	= D
59.999 and below	= F

You will be allowed to take any missed test for any absence (no excuse is necessary). Should you not provide responses to a missed test before the end of the term, an I (incomplete) will be assigned as your final course grade and will remain until all missed tests are completed. Note that a grade of I automatically becomes a grade of F after one year.

If you fail to take the final test on the scheduled date, you may take it during a time that is convenient for the instructor. Tests cannot be taken early.

In addition the graded tests, other non-graded activities will be available. These activities include analysis of data and reporting of statistical results, numerous computer replications of examples from assigned readings and course notes, and out-of-class exercises. These activities are designed to facilitate learning of course content.

Attendance

You may come and go as you please during class or chat sessions; attendance is not recorded or required in EDUR 8132 except for verification purposes at the outset of the semester.

Withdrawing from Class

The university sets a specific date in which you may withdraw from a course without an academic penalty. In this course, however, you may withdraw without an academic penalty (i.e., you will received a WP) until the last day of regular class (this excludes exam week), no questions asked, no matter what your current performance. My policy of assigning WPs is contingent upon the approval of the CFR department chair and COE Dean (i.e., a WP is not guaranteed).

To withdraw after the drop date, contact the registrar's office to learn what form is needed (it may be called "petition to withdraw" or something similar). Complete that form and submit to me so I may sign and forward to my departmental chair. It may also be possible to withdraw via e-mail—again, contact the registrar's office to learn if possible and how.

How This Course Supports the College's Conceptual Framework

The College of Educations conceptual framework advances the theme of reflective educators for diverse learners. This includes, for example, commitments to technology and to knowledge and dispositions of the profession. In this course information will be learned that should make each student educator a more knowledgeable and critical consumer of educational research, thus enabling educators to evaluate better current and recommended practices when analyzed empirically. In addition, the statistical and data analytic skills presented in this course will able student educators to become producers of educational research and this will enable educators to employ empirical means to study their own classroom and school practices through action research.

Academic Integrity Expectations

Students are expected to abide by the GSU Student Conduct Code and Regulations regarding academic integrity. Academic misconduct such as cheating and plagiarism will be reported to the Office of Judicial Affairs and appropriate penalties imposed that could affect course grade, such as a grade of zero on the targeted activity or test. See *Student Conduct Code, Section III* for relevant details.

Disability Accommodations

If a student has a documented and declared disability, reasonable accommodations will be provided if requested by the student according to the recommendations of the GSU Disabled Student Services office.