EDUR 8331 Applied Measurement
Spring 2024
Instructor: 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): No telephone, contact me electronically.
Department of Curriculum, Foundations, and Research: 912-478-5091

E-Mail
Please use Folio email to contact me so all course communications can be recorded and maintained in Folio. If Folio is not working, my regular e-mail address is bwgriffin@GeorgiaSouthern.edu .

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

Catalogue Description of EDUR 8331
This course will introduce concepts and practices in measurement and survey research. Practical applications of measurement – such as interpreting standardized test scores, constructing and administering tests and questionnaires, and producing evidence for validity and reliability – will be included.

Course Material

Articles and Chapter
Various published works will be used as readings where possible to help reduce the cost of using multiple, expensive textbooks. These publications will be linked on the course web site for each topic.

Text
Van Blerkom, M. L. (2009 or 2017; 1st or 2nd ed.). *Measurement and statistics for teachers*. Routledge.

This text is not required, but some may find it helpful. For those who do not buy this text, I have alternative readings on the course web pages for each topic. If buying, either the 1st or 2nd printed editions may be located with amazon.com, ebay.com, bookfinder.com, or other online searches – search with title since it provides a broader search than using ISBN (9780415995658). It may also be possible to find a PDF or e-book versions online.

Course Web Site
The course web site contains detailed topic notes, activities, supplemental reading, video and statistics tutorials, and course announcements. The site may be found at the following address:

http://www.bwgriffin.com/gsu/courses/edur8331

Software
SPSS version 10 or higher (cost about $35 to $45), or JASP (cost free). I recommend JASP due to low cost and strength of the software.

(a) SPSS Rental
The latest version IBM/SPSS Statistics Base for Windows can be rented for 6 months for about $35 from this site (cost is higher for MAC version).

http://www.onthehub.com/spss

Other sources to rent SPSS may be found linked below.

https://www.ibm.com/products/spss-statistics-gradpack

Many students who purchase MAC versions of SPSS have complained of installation and run issues. I recommend buying only the Windows version and using a Windows computer for data analysis.

Buy the version highlighted in the screen capture below.

IBM® SPSS® Statistics Base GradPack - includes:
Statistics Base, Data Preparation, and Bootstrapping
MSRP: $1,210.00

IBM® SPSS® Statistics Base GradPack 28 for Windows and Mac (6-Months Rental)

Available to: Students

New lower price!

$34.90
You save $1,175.10 (97%)

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IBM® SPSS® Statistics Base GradPack - includes:
Statistics Base, Data Preparation, and Bootstrapping

(b) JASP

JASP can be downloaded from this site.

https://jasp-stats.org

Versions are available for Windows, MAC, and Linux.

If you experience difficulties with installation, I cannot help. You may be able to identify solutions via online searches or JASP support page.

Course Content and Objectives

Content Covered – tentative and subject to revision; see Course Index and Course Calendar on the course web site for current course content, assigned and supplemental readings, and date topics are covered.

1. Introductory Review
    a. Measurement
    b. Variables and Scales of Measurement
    c. Descriptive Statistics
    d. Graphical Displays
    e. Correlation
    f. Two group t-test
2. Reliability and Validity
    a. Reliability – test-retest, alternate/parallel forms, internal consistency, scorer/rater/judge agreement
    b. Validity – content, response process, criterion, construct evidence
    c. Reading Factor Analysis Results (for validity structure assessment and item selection)
3. Questionnaire Selection and Development
    a. Searching for Developed Questionnaires/Scales
    b. Types of Items, Questionnaire Layout
    c. Reading Factor Analysis Results (for item selection)
    d. Questionnaire/Scale Development and Construction
    e. Content Validity and Item Development
    f. Reliability and Item Analysis
    g. Construct Validity
    h. Presentation of Evidence for Content, Reliability, and Construct Validity
    i. Composite Scores and Reverse Scoring
    j. Electronic Questionnaire Development
4. Analysis of Responses to Open-ended Items
    a. Developing Coding Sheets
    b. Qualitative Data Analysis and Content Analysis
    c. Assessing Coder Agreement
5. Classroom Test Construction
    a. Interpreting Tests and Standardized Scores
    b. Developing Objectives
    c. Content Validity
    d. Test Item Development (Short-answer, Essays, Multiple Choice, True-false)
    e. Item and Test Analysis
6. Modern Measurement Introduction (not covered, new course planned for this material)
    a. Item Response Theory Models
    b. Rasch Models

Following presentation of the above content students should be able to develop tests and questionnaires that are content valid and provide evidence of reliability and validity for data obtained from tests or questionnaires.

Course Calendar

A current calendar with any announcements to highlighted changes can be found at the course web page:

http://www.bwgriffin.com/gsu/courses/edur8331

Content Delivery

Content is provided online via readings and video presentations. Optional live chats are also offered.

Grading, Assessments, and Course Activities

Course grades will be based upon three tests and three activities. The tests are developed to match content covered and are take-home, open book style. Tests will be posted a week or so before responses are due. Briefly described, Activity 1 requires scale development; Activity 2 requires validity/reliability assessment of scores obtained from the developed scale; and Activity 3 requires reviewing two scales for evidence of validity and reliability. Details for all activities will be posted on the course website.

> **Class projects and Georgia Southern's Institutional Review Board (IRB)**
> The criteria below are followed to meet IRB guidelines for class projects:
> - No minors
> - No more risk than minimal
> - No deception
> - No publication or presentation of findings outside of class and all reports/presentations in class must adequately blind sources so no one respondent can be identified.
> - No videotaping

Course grades will be based upon the following items and weights:
- Test 1 = 30%
- Test 2 = 30%
- Test 3 = 25%
- Activity 1: Scale Development = 5%
- Activity 2: Scale Validation = 5%
- Activity 3: Scale Evaluation = 5%

In addition to tests and graded activities, non-graded assignments are also located on the course web page. These assignments are instructional in nature and designed to teach the specific content covered.

Attendance

You may come and go as you please; attendance is not recorded in EDUR 8331.

Withdrawing from Class

The university sets a specific date in which you may withdraw from a course without an academic penalty. On rare occasions some students wish to withdraw after the university deadline. This may be possible - contact the registrar's office to learn which forms are needed to petition for a withdraw after the university deadline has passed.

How This Course Supports the College's Conceptual Framework

As noted in the Georgia Southern University Mission statement, one of the institution's hallmarks is to build a culture of engagement that links theory with practice. The course objectives and candidate performance outcomes associated with this course address this critical element. In addition, the course objectives specifically address the four commitments that form the core of the College's conceptual framework:

- Commitment to the Knowledge and Dispositions of the Profession
  Candidates will learn various ways to measure constructs and outcomes that can be applied in a variety of fields and professions.
- Commitment to Diversity

The variety of measurement approaches learned in this course can be used to tailor measurement projects to diverse situations, contexts, and populations.
- Commitment to Technology
  Candidates will be exposed to various software for data analysis and to web-based tools for collecting survey data.
- Commitment to the Practice of Continuous Reflection and Assessment
  This course will introduce candidates to measurement techniques that can be used to form assessments through which reflections on practices can be examined.

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 GSU's *Student Conduct Code* 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.

Artificial Intelligence Usage

GSU stance on use of AI in courses: "I expect you to generate your own work in this class. Any work submitted infers the assertion that you have generated and written the text, unless stated otherwise by proper quotation and attribution methods. Submitting content that was generated by someone else, or that was created or assisted by a computer application or tool, including artificial intelligence (AI) tools such as ChatGPT, is cheating and constitutes a violation of the Student Conduct Code. You may use simple word processing tools to update grammar in your work, but you may not use AI tools to draft your assignments, even if you edit, revise, or paraphrase it. There may be opportunities for you to use AI tools in this class, but I will clearly specify when and in what capacity if the opportunity presents itself."