Note:

Course content may be changed, term to term, without notice. The information below is provided as a guide for course selection and is not binding in any form, and should <u>not</u> be used to purchase course materials.

LIBERTY UNIVERSITY

COURSE SYLLABUS

EDCO 745

INTERMEDIATE STATISTICS AND RESEARCH

COURSE DESCRIPTION

This course will cover the use of a number of statistical techniques and how to use such procedures to solve problems and to answer questions in the areas of counseling and family studies. The core statistical techniques will focus on using various forms of Multiple Regression, ANOVA, ANCOVA, and Factor Analysis. In addition, students will sharpen their skills in research design, such that they are able to identify which statistical procedure and research design best answers specific research questions.

RATIONALE

Counselors are increasingly required to demonstrate the efficacy of their interventions and treatment strategies. Within the helping profession, there is increasing pressure to provide treatments that are evidence-based. It is no longer professionally acceptable for counselors to rely simply on their experience and previous training in a particular theory or approach to counseling to treat specific kinds of clinical problems such as depression, anxiety, and addictions. We are currently in an era of accountability. This accountability also applies to professional Christian counselors, as the profession will face growing demands to demonstrate efficacy. Moreover, the field of Christian counseling and community care makes knowledge claims about human behavior, developmental processes, spirituality and mental health functioning, and the importance of close relationships. If we believe our knowledge claims have practical, real-life applications, Christian academia has a responsibility to demonstrate that these knowledge claims can have practical applications that can be empirically validated. To this end, doctoral level practitioners and academics must be able to appropriately consume the current scientific research such that they can identify potential strengths and weaknesses of research reports and understand how such data can be interpreted and generalized to areas of interests. The purpose of this course is designed to help the student acquire an advanced understanding of research design and statistical techniques necessary to not only understand and consume the scientific literature in and around the field of counseling and community care, but to also produce a high quality doctoral dissertation that meaningfully contributes to the scientific literature.

I. PREREQUISITE

For information regarding prerequisites for this course, please refer to the Academic Course Catalog.

II. REQUIRED RESOURCE PURCHASE

Click on the following link to view the required resource(s) for the term in which you are registered: http://bookstore.mbsdirect.net/liberty.htm

III. ADDITIONAL MATERIALS FOR LEARNING

A. Computer with basic audio/video output equipment

B. Internet access (broadband recommended)

C. Microsoft Word

IV. MEASURABLE LEARNING OUTCOMES

Upon successful completion of this course, the student will be able to:

A. Develop a basic understanding of how research design methods and statistics procedures are used hand-in-hand to address specific kinds of research questions.

B. Develop an understanding of different procedures for selecting participants for research study and identify how these different procedures critically influence various types of validity concerns.

C. Demonstrate an understanding of how to appraise and articulate the important conceptual concerns related to selecting both reliable and valid measures in a research study.

D. Identify the relative value of various statistical methods and procedures used to address specific research hypotheses.

E. Develop the conceptual tools for analyzing and critically evaluating outcome data not only in terms of statistical significance but also clinical meaningfulness.

F. Develop an understanding and apply important statistical concepts for evaluating statistical validity in one's own research proposal as well as in published research articles.

G. Demonstrate the ability to delineate and distinguish between different types of validity (internal, external, construct, and statistical conclusion) and appraise research studies in light of their relative strengths and weaknesses with respect to each type of validity.

H. Demonstrate an understanding of the core ethical considerations involved in conducting research with human subjects.

V. COURSE REQUIREMENTS AND ASSIGNMENTS

A. Textbook readings and lecture presentations

B. Course Requirements Checklist

After reading the Course Syllabus and Student Expectations, the student will complete the related checklist found in Module/Week 1.

C. Discussion Board Forums (8)
Discussion boards are collaborative learning experiences. Therefore, the student will participate in discussion boards each week. These discussion boards are intended for the student to ask questions of other students and the instructor of your course. It is important for the student to answer these questions primarily. Your instructor will monitor the DB and comment when necessary. Explaining a concept is an important part of understanding a concept. The student must subscribe to the DBs for each of the modules.

D. Collaborative Institutional Training Initiative (CITI) Training

The student will complete CITI training, which is an online training course on ethics in research. To complete training, follow the instructions on this website: http://www.liberty.edu/academics/graduate/irb/index.cfm?PID=27730. CITI training allows users to select which subjects to complete, and the student only need to complete the social and behavioral researchers' sections for this course. If the student has previously completed CITI training within the last 2 years, he/she does not need to complete it again if he/she submits proof of completion.

E. Group Pick

A key aspect of producing quality research is collaboration. While group projects have their challenges, working through those challenges to create a conference ready poster for this course will be an activity where you will be building a work product that can serve as a template for you and your group members going forward. Each team member must turn in a Microsoft Word document with the name of each of the team members. In addition, each student must indicate what his/her team plan is to effectively communicate with one another during the course of this project.

F. Pick Topic

Each student needs to pick a topic related to the data Each student's topic must be focused around 1 or more of the constructs measured in the scales. In addition to these scales, the data has basic demographics. All participants in the dataset are between the ages of 18 and 80. The student must submit a Microsoft Word document indicating his/her topic and at least 4 references related to the topic that utilized 1 or more of the scales in Blackboard.

G. Outline of Literature Review

The student will construct an outline for his/her Literature Review. These outlines must be thorough and include citations and descriptions of the articles the student reviewed. This must include major themes as well as integration between themes. The outline of the student's Literature Review must have at least 5 major headings. The student may resubmit this assignment a second time after receiving feedback.

Example Organization:

I: Introduction
II: Theme 1
III Theme 2
IV: Integrate and Synthesize Themes
V: Conclusion

H. Data Screening Exercise

The student will choose any 2 categorical and 2 quantitative variables and go through the data screening process outlined in Warner chapter 4. The student will write a data screening paragraph consistent with Warner's instructions and submit the paragraph and output in a Microsoft Word document.

I. Literature Review Draft
The student will turn in the best-written 2 pages of his/her Literature Review to date. These 2 pages must represent his/her best writing.
The student's best writing includes: no direct quotes, complete, and descriptive sentences, integrated to beautifully organized and written paragraphs, and logical transitions from one paragraph to another.

J. Data Screening Output (Group)
The student will turn in his/her data screening output for an analysis of group differences. This is a group project. Only 1 person has to turn this in. There are a number of demographics that the student can explore differences between (e.g., gender) in the dataset.

K. Group Differences Results
Provide a results section of a between groups analysis, written in current APA format. Include all relevant tables and figures. Attach your SPSS output to the assignment as well. Be sure and include a title page and a reference page.

L. Literature Review
The paper must contain the following elements, using current APA style:
1. Title page
2. Abstract
3. Review of Literature. The student must both summarize and critically evaluate the current literature on the topic and create within the summary an argument for why this topic is important and the issues and new needs in research to address. This must be written in a research-scientific format, as if it were to be submitted to a journal for publication.

This review will serve as the basis for the student's future research interests. For a sufficient overview of the literature, the review must be 7–10 pages of empirically-based, critical writing. The review must:

1. Summarize the research in a logical, sequential manner.
2. Make a case for why additional research needs to be conducted to fill important gaps in scientific literature.

M. WebEx Session with Instructor
The student will schedule a live online meeting with his/her professor where all of his/her team members can be present.

N. Regression Data Screening Output (Group)
The student will turn in his/her data screening output for an analysis of group differences. This is a group project. Only 1 person has to turn this in. Thet variables must be based on the models that the student has developed.

O. Model Drawings
The student will turn in at least 2 proposed models. These models must be based on Hayes' models in his currently published text. The student must use his/her

variables of interest to construct his/her models. For each model, a brief description must be included. A title page is also required. This is a group project. Only 1 member of the group needs to turn in the assignment.

P. Regression Output and Write-Up
The student must provide a results section of a regression analysis written in current APA format. All relevant tables and figures must be included. The student must attach his/her SPSS output to the assignment as well. A title page and a reference page must also be included.

Q. Poster Draft
Each team receives 25 points for turning their poster in and getting feedback from the instructor.

R. Poster – Final Submission
Using the course materials and the examples in Blackboard, the student will construct a research poster presenting his/her group's complete research study. The poster submission must have a central focus, and that focus must be evident throughout the poster. Specifically, the introduction, analysis, and results must be focused around a set of research questions and/or hypotheses that are obvious in the theoretical diagram. The focus must comprehensively place problem/question in appropriate scholarly context (scholarly literature, theory, model, or genre). All elements of method/techniques must be fully developed and articulated. Approaches support a complex and/or nuanced analysis of the problem. Interpretation is explicitly linked to theoretical framework or scholarly model. Implications, consequences, and/or questions raised by the project are thoroughly explored. Limitations must be fully articulated. Presentation of the material must be professional and compelling.

VI. COURSE GRADING AND POLICIES

A. Points

Course Requirements Checklist	10
Discussion Board Forums	0
CITI Training	100
Pick Group	25
Pick Topic	25
Lit Review Outline	50
Data Screening Exercise	50
Literature Review Draft	50
Data Screening Output	50
Group Differences Results	50
Literature Review	150
WebEx Session with Instructor	25
Data Screening Output	50
Model Drawings	50
Regression Output and Write-Up	50
Poster Draft	25

Final Poster		250
Assignment Resubmits		0
	Total	1010

B. Scale

A = 940–1010 A- = 920–939 B+ = 900–919 B = 860–899 B- = 840–859
C+ = 820–839 C = 780–819 C- = 760–779 D+ = 740–759 D = 700–739
D- = 680–699 F = 0–679

C. Style Guidelines

All assignments for this course are to be formatted in accordance with the APA manual. Supplemental writing aids are available via the Online Writing Center.

D. Extra Credit

No additional "for credit" assignments will be permitted beyond those given in the course requirements stated above.

E. Course Changes

Course requirements are subject to change by the administration of the University at any time with appropriate notice.

F. Disability Assistance

Students with a documented disability may contact Liberty University Online's Office of Disability Academic Support (ODAS) at LUOODAS@liberty.edu to make arrangements for academic accommodations. Further information can be found at www.liberty.edu/disabilitysupport.

LIBERTY UNIVERSITY

COURSE SCHEDULE

EDCO 745

Textbook: Hayes, *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach* (2013).
Hepner et al., *Research Design in Counseling* (2013).
Warner, *Applied Statistics* (2012).

MODULE/ WEEK	READING & STUDY	ASSIGNMENTS	POINTS
1	Warner: ch. 1 Hepner et al.: chs. 1–4	Course Requirements Checklist Class Introductions/DB Forum 1 Subscribe to all DBs CITI Training Group Pick	10 0 0 100 25
2	Warner: chs. 2–4 Hepner et al.: chs. 7–8 Begin reading Hayes	DB Forum 2 Pick Topic Outline of Literature Review Data Screening Exercise	0 25 50 50
3	Warner: chs. 5–6, 13 Hepner et al.: chs. 11–12 Finish reading Hayes	DB Forum 3 Literature Review Draft Data Screening Output (Group) Group Differences Results	0 50 50 50
4	Warner: chs. 17–19 Hepner et al.: chs. 11–12	DB Forum 4 Literature Review	0 150
5	Warner: chs. 11–12, 14–16 Hepner et al.: ch. 13 Review Hayes: chs. 1–3	DB Forum 5 WebEx Session with Instructor	0 25
6	Review Hayes: chs. 4–6	DB Forum 6 Regression Data Screening Output (Group) Model Drawings	0 50 50
7	Review Hayes: chs. 7–9	DB Forum 7 Regression Output and Write-Up Poster Draft	0 50 25
8		DB Forum 8 Poster – Final Submission Assignment Resubmits	0 250 0
		TOTAL	**1010**

DB = Discussion Board
CITI = Collaborative Institutional Training Initiative
NOTE: Each course module/week begins on Monday morning at 12:00 a.m. (ET) and ends on Sunday night at 11:59 p.m. (ET). The final module/week ends at 11:59 p.m. (ET) on **Friday**.