

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 not be used to purchase course materials.

COURSE SYLLABUS

EXSC 520

STATISTICAL ANALYSIS IN EXERCISE SCIENCE

COURSE DESCRIPTION

This course targets the development of understanding in statistical methodology as it relates to the field of exercise science. Students will be able to summarize, analyze, and interpret data using descriptive and inferential statistics.

RATIONALE

The ability to comprehend, correctly analyze, and interpret data is essential for conducting and critiquing scientific literature. As a profession, exercise scientists are required to provide their vocational services in an evidence-based manner, which requires a complete understanding of the current academic research as well as the statistical methods used to conduct that research.

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 Office

IV. MEASURABLE LEARNING OUTCOMES

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

- A. Communicate effectively in the field of exercise science.
- B. Evaluate exercise science-related programming.
- C. Apply statistical techniques and theories to exercise science-related data sets.
- D. Differentiate between various statistical methods and select the most appropriate test for the data and desired analysis.
- E. Integrate statistical theory into practical circumstances.

V. COURSE REQUIREMENTS AND ASSIGNMENTS

A. Textbook readings and 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 (2)

Discussion boards are collaborative learning experiences.

Threads

The student is required to provide a thread in response to the provided prompt for each forum. Each thread must be at least 500 words, demonstrate course-related knowledge, integrate 1 biblical principle, and provide a total of 2 citations from any of the following sources: peer-reviewed journal articles, published textbooks, or publications directly associated with the content being discussed (requires prior approval from the instructor).

Replies

In addition to the thread, the student is required to reply to 2 other classmates' threads. Each reply must be at least 250 words and include at least 1 citation from any of the same types of sources as those approved for the thread.

D. Case Studies (6)

Each case study will cover the Reading & Study material for the module/week in which it is assigned. Each case study will contain a practical scenario for which the student will perform the statistical analysis in SPSS, determine the outcome of the performed analysis (providing p -value(s) and an explanation of whether the finding(s) is/are significant), and explain the meaning of the outcome in relation to the stated scenario.

E. Quizzes (2)

Each quiz will cover the Reading & Study material for the beginning of the semester (Quiz 1) or since the last quiz (Quiz 2).

VI. COURSE GRADING AND POLICIES

A. Points

Course Requirements Checklist	10
Discussion Board Forums	
Thread (2 at 50 pts ea)	100
Replies (2 at 50 pts ea)	100
Case Studies (6 at 100 pts ea)	600
Quizzes (2 for a total of 200 pts)	200
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. 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.

COURSE SCHEDULE

EXSC 520

Textbook: Vincent & Weir, *Statistics in Kinesiology* (2012).

MODULE/ WEEK	READING & STUDY	ASSIGNMENTS	POINTS
1	Vincent & Weir: ch. 8 Quiz reading guide on Blackboard 3 presentations	Course Requirements Checklist Class Introductions Case Study 1	10 0 100
2	Vincent & Weir: ch. 10 Quiz reading guide on Blackboard 3 presentations	Case Study 2	100
3	Quiz reading guide on Blackboard 1 website	DB Forum 1 – Thread Quiz 1	50 87.5
4	Vincent & Weir: ch. 11 Quiz reading guide on Blackboard 2 presentations	DB Forum 1 – Replies Case Study 3	50 100
5	Vincent & Weir: ch. 12 Quiz reading guide on Blackboard 2 presentations	Case Study 4	100
6	Vincent & Weir: ch. 14 Quiz reading guide on Blackboard 2 presentations	Case Study 5	100
7	Quiz reading guide on Blackboard 1 website	DB Forum 2 – Thread Quiz 2	50 112.5
8	Vincent & Weir: ch. 164 presentations	DB Forum 2 – Replies Case Study 6	50 100
TOTAL			1010

DB = Discussion Board

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**.