American Public University System

The Ultimate Advantage is an Educated Mind

School of Management
Course Number: SPHS 500
Course Name: Statistics for Sports and Health Sciences
Credit Hours: 3
Length of Course: 16 weeks
Prerequisite:

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Instructor Information

(Biography)

Instructor:
Email:
Phone:
Fax:
Office Hours: Email me to set them up

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Course Description (Catalog)

This course will introduce the student to graphical presentation of data, histograms and confidence intervals for binomial probabilities. One-sample and two-sample t-test as well as regression and correlation with two variables will also be discussed. The student will learn the concept of hypothesis testing and confidence intervals, multivariate regression and correlation, partial correlation coefficients, analysis of variance and covariance and multiple comparison procedures. The analysis of research data will be emphasized in this course to provide the student with real world examples in the field of Sports and Health Sciences.

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Course Scope

This course is an introduction to basic statistical analysis and the use of SPSS software. This course will cover various statistical analysis techniques such as t-test, ANOVA, correlation and post-hoc testing.

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Course Objectives

After successfully completing this course, you will be able to:

LO-1: Identify the characteristics of the 4 measurement scales
LO-2: Differentiate between descriptive and inferential statistics.
LO-3: Explain and differentiate between independent and dependent variables.
LO-4: Explain normal and skewed distributions
LO-5: Explain basic statistical concepts; construct numerical and graphical data summaries
LO-6: Apply the following statistical concepts: measures of central tendency, measures of dispersion, hypothesis testing, correlation and regression, t-tests (independent and dependent), ANOVA.

LO-7: Use SPSS statistical software to perform the statistical analysis for each statistical concept.
LO-8: Make appropriate selections of statistical models for use with various types of data.

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Course Delivery Method

This course delivered via distance learning will enable students to complete academic work in a flexible manner, completely online. Course materials and access to an online learning management system will be made available to each student. Online assignments are due by Sunday evening of the week as noted. The initial forum post is due by Thursday of the week noted and at least 2 responses are required to be submitted by Sunday. Assigned faculty will support the students throughout this sixteen-week course.

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Course Materials

Required Course Textbooks

Steinberg, W. (2011). *Statistics Alive* (2nd edition). Thousand Oaks, CA: Sage Publications.

Websites

In addition to the required course texts the following public domain Websites are useful. Please abide by the university's academic honesty policy when using Internet sources as well. Note web site addresses are subject to change.

Site Name	Website URL/Address
Resources to help you learn SPSS	http://www.ats.ucla.edu/stat/spss/dae/
Statistics Help	http://www.statistics-help-online.com/
Purdue Owl APA format	http://owl.english.purdue.edu/owl/resource/560/01/

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Evaluation Procedures

Describe how you will evaluate your students for each graded activity:

Reading Assignments: You will need to read the textbook and documents in the lessons to do well on all assignments.

Forum Assignments: Each forum is worth 10 points. You will need to post an initial post by Thursday at midnight (EST) and 2 responses by Sunday at midnight (EST). The initial post must be at least 300 words in length, not including references and the responses must be at least 200 words in length.

Homework Assignments: It is highly recommended that you complete the problems at the end of each chapter. These assignments will not be graded but will improve you grade on all tests and other assignments.

Quizzes: You have 4 quizzes
Data Analysis Papers: You have 4 data analysis papers for this course. The first is a small paper and each paper increases in length and difficulty as the course progresses. For these assignments, you will be required to use the SPSS software to analyze the data provided and then write an appropriate summary of the information.

Grade Instruments	Points
Forum #1	**10**
Forum #2	**10**
Forum #3	**10**
Forum #4	**10**
Forum #5	**10**
Forum #6	**10**
Forum #7	**10**
Forum #8	**10**
Forum #9	**10**
Forum #10	**10**
Data analysis paper #1	**25**
Data analysis paper #2	**50**
Data analysis paper #3	**50**
Data analysis paper #4	**100**
Quiz #1	**25**
Quiz #2	**30**
Quiz #3	**25**
Quiz #4	**30**
Total	**435**

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8 – Week Course Outline

Please see the Student Handbook to reference the University's grading scale

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Week	Topic	Learning Objectives	Readings	Assignment
1	**Introduction to statistics**	**LO-1:** **LO-2:**	**Text Readings:** Steinberg, Chapters 1 &2	Forum #1
2	Tables and Graphs	LO-1 LO-5	**Text Readings:** Steinberg, Chapters 3 & 4	Forum #2
3	Central Tendency	LO-1 LO-3 LO-6	**Text Readings:** Steinberg, Chapter 5	Data Analysis Paper #1
4	The normal curve and standard scores	LO-1 LO-4 LO-5	**Text Readings:** Steinberg, Chapter 6	Quiz 1 Forum #3
5	Probability	LO-4	**Text Readings:** Steinberg, Chapters 7 - 11	Forum #4
6	Inferential Theory	LO04	**Text Readings:** Steinberg, Chapters 12-14	Forum #5
7	The One-sample Test	LO-4 LO-6 LO-7	**Text Readings:** Steinberg, Chapters 15-18	Data Analysis Paper #2
8			**Text Readings:** None for this week	Quiz #2
9	The two-sample test	LO-6 LO-7	**Text Readings:** Steinberg, Chapters 19-23	Forum #6

10	The multi-sample test and Post Hoc Tests	LO-6 LO-7 LO-8	**Text Readings:** Steinberg, Chapters 24 - 27	Forum #7
11	More than one independent variable and nonparametric statistics	LO-6 LO-7 LO-8	**Text Readings:** Steinberg, Chapters 28-31	Data Analysis Paper #3
12	Effect size and power	LO-8	**Text Readings:** Steinberg, Chapters 32-33	Quiz 3 Forum #8
13	Correlation	LO-6 LO-7	**Text Readings:** Steinberg, Chapters 34 - 36	Forum #9
14	Linear Prediction	LO-6 LO-7	**Text Readings:** Steinberg, Chapters 37 - 39	Forum #10
15	Review – selecting the appropriate analysis	LO-8	**Text Readings:** Steinberg, Chapter 40	Data Analysis Paper #4
16				Quiz #4

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Policies

Please see the Student Handbook to reference all University policies. Quick links to frequently asked question about policies are listed below.

Drop/Withdrawal Policy
Plagiarism Policy
Extension Process and Policy
Disability Accommodations

Writing Expectations

This is a graduate level course and appropriate spelling, grammar and APA format are all expected for each assignment and forum.

Citation and Reference Style

Attention Please: Students will follow the APA Manual, 6th edition, as the sole citation and reference style used in written work submitted as part of coursework to the University. Assignments completed in a narrative essay or composition format must follow the citation style cited in the APA manual.

Late Assignments

Students are expected to submit classroom assignments by the posted due date and to complete the course according to the published class schedule. As adults, students, and working professionals I understand you must manage competing demands on your time. Should you need additional time to complete an assignment please contact me before the due date so we can discuss the situation and determine an acceptable resolution. The course policy is a deduction of 5% of the total points for each assignment, per day the assignment is late.

Netiquette

Online universities promote the advance of knowledge through positive and constructive debate--both inside and outside the classroom. Discussions on the Internet, however, can occasionally degenerate into needless insults and "flaming." Such activity and the loss of good manners are not acceptable in a university setting--basic academic rules of good behavior and proper "Netiquette" must persist. Remember that you are in a place for the fun and excitement of learning that does not include descent to personal attacks, or student attempts to stifle the discussion of others.

- **Technology Limitations:** While you should feel free to explore the full-range of creative composition in your formal papers, keep e-mail layouts simple. The Sakai classroom may not fully support MIME or HTML encoded messages, which means that bold face, italics, underlining, and a variety of color-coding or other visual effects will not translate in your e-mail messages.
- **Humor Note:** Despite the best of intentions, jokes and--especially--satire can easily get lost or taken seriously. If you feel the need for humor, you may wish to add "emoticons" to help alert your readers: ;-), :), ☺

Disclaimer Statement

Course content may vary from the outline to meet the needs of this particular group.

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Online Library

The Online Library is available to enrolled students and faculty from inside the electronic campus. This is your starting point for access to online books, subscription periodicals, and Web resources that are designed to support your classes and generally not available through search engines on the open Web. In addition, the Online Library provides access to special learning resources, which the University has contracted to assist with your studies. Questions can be directed to **librarian@apus.edu**.

- **Charles Town Library and Inter Library Loan:** The University maintains a special library with a limited number of supporting volumes, collection of our professors' publication, and services to search and borrow research books and articles from other libraries.
- **Electronic Books:** You can use the online library to uncover and download over 50,000 titles, which have been scanned and made available in electronic format.
- **Electronic Journals:** The University provides access to over 12,000 journals, which are available in electronic form and only through limited subscription services.
- **Smarthinking:** Students have access to ten free hours of tutoring service per year through **Smarthinking**. Tutoring is available in the following subjects: math (basic math through advanced calculus), science (biology, chemistry, and physics), accounting, statistics, economics, Spanish, writing, grammar, and more. Additional information is located in the Online Library. From the Online Library home page, click on either the "Writing Center" or "Tutoring Center" and then click "Smarthinking." All login information is available.

Request a Library Guide for your course (http://apus.libguides.com/index.php)
The AMU/APU Library Guides provide access to collections of trusted sites on the Open Web and licensed resources on the Deep Web. These are specially tailored for academic research at APUS:

- Program Portals contain topical and methodological resources to help launch general research in the degree program. To locate, search by department name or navigate by school.
- Course Lib-Guides narrow the focus to relevant resources for the corresponding course. To locate, search by class code (e.g., SOCI111) or class name.

If a guide you need isn't available yet, let us know by emailing the APUS Library: librarian@apus.edu

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