SYLLABUS
QUANTITATIVE METHODS I
PSYC 6380, CRN 17876
Fall 2015
HSSN Building, 2nd Floor, Room 131, Tuesdays 2:00 – 4:50 am

Instructor: Christina Sobin, PhD, Room 368-O, HSSN Building
915-747- 7274 – casobin@utep.edu

Office Hours: Mondays 10:00 – 11:30am <u>and</u> by appointment

Prerequisite: *Completion of at least one prior statistics course with a grade of B or better that included instruction on descriptive statistics and measures of central tendency; and instructor approval.*

Required Textbooks (available in the bookstore and online):

Field, A. Discovering Statistics Using IBM SPSS Statistics, Fourth Edition [Paperback]
    Sage Publications Ltd, Print edition: (ISBN-10: 1446249182) (ISBN-13: 978-1446249185)
    http://www.uk.sagepub.com/books/Book238032
Sullivan, L. Essentials of Biostatistics for Public Health, Second Edition [Paperback]
    Jones & Bartlett Learning, Print edition: (ISBN-10: 1449623948) (ISBN-13: 978-1449623944)
    http://www.jbpub.com/essentialpublichealth/sullivan/2e

<u>**A laptop computer is required for every class meeting.**</u> **In class we will be using SPSS 22 software provided for you via our campus Citrix Receiver.** <u>*Before the first class*</u>**, log on to https://my.apps.utep.edu and install the Citrix Receiver app following the instructions on the website (just point and click). After it is installed, click on SPSS 22 icon. The SPSS program should open. If you have any difficulty with this, be sure to check with IT before our first class. In order to participate in class, SPSS 22 must be operative on your laptop computer.**

Required Software:
* Microsoft Office
* IBM® SPSS® Statistics (alternate: PASW Statistics): data management and statistical analysis software
    * access is available for free to UTEP students under MY DESKTOP in MY.UTEP
    * student license available for purchase online from UTEP Bookstore

Additional Resources:
* Statistical Consulting Laboratory @ UTEP Bell Hall 131 (not for tutoring)
    http://academics.utep.edu/Default.aspx?alias=academics.utep.edu/statlab

* MyDesktop
    o Workshops: http://admin.utep.edu/Default.aspx?tabid=65331
    o Report issues to: https://servicedesk.utep.edu
    o Contact in IT: Frank Poblano fpoblano@utep.edu

COURSE DESCRIPTION AND GOALS:

This applied statistics course was designed to meet the needs of beginning doctoral-level research professionals in the health sciences. The course teaches the analysis of health sciences data using a widely used statistical software package, while developing students' abilities to identify, conduct, organize, and compare appropriate approaches for the analysis and interpretation of health sciences data. This course will focus on the planning and interpretation of health science measurement methods, descriptive statistics, confidence intervals and hypothesis testing, and univariate and bivariate statistics, and analyses including t-tests, analysis of variance, multiple comparisons, correlation, and their equivalent non-parametric tests. Oral and written presentation of the testing and interpretation of hypotheses and analyzed data, and synthesis of findings, are required course activities.

Homework Assignments: Assignments and other selected materials will be given on the syllabus and/or in class. Late work submitted within two days of deadline will receive a 50% grade reduction (no credit awarded if submitted more than two days after the deadline).

Teaching/Learning Methods: This course emphasizes application. Lectures on concepts and terms will be given as needed during class. All homework assignments will be discussed in detail. Students may sometimes work in groups while in the class, *all work completed outside of must be completed on an individual basis, including homework exercises*.

Course Objectives: Upon completion of this course the student will learn the appropriate use of statistical methods for the analysis of data, with continuous and categorical variables, using statistical analysis software IBM® SPSS® Statistics (alternate: PASW Statistics). These objectives should contribute to student's ability to critically review the public health and epidemiologic literature, and to carry out statistical analyses independently for later professional application. Students will be able to:
1. identify sources of health sciences related data and statistics
2. demonstrate and practice technical skills needed to view, summarize, and analyze data using IBM® SPSS® Statistics
3. apply appropriate statistical methods, tests, and terminology for multivariate analyses focusing on linear and logistic regression analyses and diagnostics
   a. generate and organize appropriate tables and graphs to summarize results
   b. state assumptions for tests performed
   c. create and present written and oral presentations of their findings
4. discuss the use of statistical tools commonly used in health sciences literature, and compare the strengths and limitations of methods used.

Course Grades will be based on home-work assignments, performance on in-class quizzes (35%); exams (35%); and Analysis Final Project (30%).

Grading Scheme: A (>= 90%), B (80-89%), C (70-79%), D (60-69%), and F (< 60%)

Analysis Final Project: Students will develop and test research questions in a health science area and produce a report and oral presentation of their findings. The student will have to accomplish the following activities to complete this final project:
1. identify and gain access to a dataset in their disciple or health sciences research area of interest
2. generate (one or more) testable hypotheses
3. select appropriate statistical descriptive and analytical methods
4. generate appropriate univariate and bivariate plots, tables, and tests using IBM® SPSS® statistical software
5. summarize the statistical results and interpret the findings

COURSE POLICIES

Attendance Policy: By university policy it is required that **all** students attend **all** scheduled classes and arrive to class on time. Attendance will be taken at each class. It is the student's responsibility to get any missed in-class or out-of-class assignments and/or class notes from class peers. When a student is chronically absent, defined as absent from class for more than two consecutive classes, the instructor may drop the student. A student absent from a test during the semester will receive a grade of zero. Please refer to the following link regarding absences for religious holy days and military leave, and more for more details regarding university policy:
http://academics.utep.edu/Default.aspx?tabid=54418

Excused Absences for University-Recognized Activities: Students who are absent while representing the University in officially recognized University activities (sports, band, professional conferences, etc.) must notify the Dean of Students no less than ten days prior to the absence. The Dean of Students will provide the student with a letter of excuse to be given to the student's professors. http://sa.utep.edu/deanofstudents

Disabilities: If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 915.747.5148, cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, visit www.utep.edu/CASS. CASS' Staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities.

Policy on Electronic Devices in Class: The use of electronic devices (i.e., laptops, mobile phones, Smartphones, tablets, MP3 players) is not permitted during class time. Use of these devices is distracting to your classmates and to your instructor. All devices must be turned off and/or disabled before class begins. Students failing to do so or students who ignore this policy will be asked to leave the class by the instructor, and may be dropped from the course. At the beginning of the semester, the instructor will discuss with the class any possible exceptions regarding the use of personal laptops and/or tablets.

Academic Integrity: Students who engage in scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from the university. As stated in the university student handbook: "Scholastic dishonesty includes but is not limited to <u>cheating</u>, <u>plagiarism</u>, <u>collusion</u>, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another student, any act designed to give unfair advantage to a student or the attempt to commit such acts." University policies on scholastic dishonesty will be strictly enforced. For more information, see the *Handbook of Operating Procedures (HOP)* available at
http://admin.utep.edu/Default.aspx?tabid=71782

<u>**Cheating**</u> includes:
1. Copying from the homework, in-class work or exam paper of another student, engaging in written, oral, or any other means of communication with another student during an exam or homework assignment, or giving aid to or seeking aid from another student during a test;
2. Possession and/or use during an exam or home test of materials which are not authorized by the person giving the test, such as class notes, books, or specifically designed "crib notes";
3. Using, obtaining, or attempting to obtain by any means the whole or any part of non-administered test, test key, homework solution, or computer program; using a test that has been administered in prior classes or semesters but which will be used again either in whole or in part without permission of the instructor; or accessing a test bank without instructor permission;
4. Collaborating with or seeking aid from another student for an assignment without authority;
5. Substituting for another person, or permitting another person to substitute for one's self, to take a test;
6. Falsifying research data, laboratory reports, and/or other records or academic work offered for credit.

<u>**Plagiarism**</u> refers to the appropriation, buying, receiving as a gift, or obtaining by any means another's work and the unacknowledged submission or incorporation of it in one's own academic work offered for credit, or using work in a paper or assignment for which the student had received credit in another course without direct permission of all involved instructors. NOTE: This includes cutting-and-pasting and photocopying from on-line and other material.

<u>**Collusion**</u> means the unauthorized collaboration with another person in preparing academic assignments offered for credit or collaboration with another person to commit a violation of any provision of the rules on scholastic dishonesty.

Syllabus – Quantitative Methods I – FALL 2015 (subject to change)
CHSC 6380 (CRN 17876), Tuesdays 2:00pm – 4:50pm, HSSN, Rm 131
C. Sobin, Instructor, 915-747-7274, casobin@utep.edu

>>>>>>>>BRING YOUR LAPTOP TO EVERY CLASS<<<<<<<<

TUESDAY	Assignment for Class Read and prepare to complete brief quiz on content at the start of each class	Topic	Final Project Deadlines
CLASS 1 Aug 24	Field: Chap 1 & 2 Sullivan: Chap 1 & 2 (skim 6 & 8)	**Basic Concepts and Terms Variability Types of Studies**	
CLASS 2 Sept 1	Field: Chap 3	**Using SPSS**	
CLASS 3 Sept 8	Field: Chap 4 Sullivan: Chap 4	**Graphing Data**	**DATASET DUE with brief written description and rationale**
CLASS 4 Sept 15	Field: Chap 5 Sullivan: Chap 5 & 7	**Bias, Probability, Hypothesis Testing**	
CLASS 5 Sept 22	Field: Chap 6	**Non-parametric Models**	**VARIABLES DUE with brief written description of relevance to topic**
CLASS 6 Sep 29	Field: Chap 7	**Correlation**	
CLASS 7 Oct 6	**MIDTERM EXAM** – in class	*Exam on Field: Chap 3, 4, 5, 6 & 7*	
CLASS 8 Oct 13	Field: Chap 8	**Regression**	
CLASS 9 Oct 20	Field: Chap 8	**Regression**	**UNIVARIATE PLOTS DUE**
CLASS 10 Oct 27	Field: Chap 9	**Comparing two means**	
CLASS 11 Nov 3	Field: Chap 10	**Moderation, Mediation, More Regression**	**HYPOTHESES DUE**
CLASS 12 Nov 10	Field: Chap 10	**Moderation, Mediation, More Regression**	**BIVARIATE PLOTS DUE**
CLASS 13 Nov 17	Field: Chap 11	**Comparing several means**	**FINAL DRAFT INCLUDING REVISIONS DUE**
CLASS 14 Nov 24	Field: Chap 11	**Comparing several means**	
CLASS 15 Dec 1	Final Analysis Project Presentations		**PRESENTATIONS DUE**
CLASS 16 Dec 8	**FINAL EXAM** – in class Tuesday December 8th, 2:00 – 4:50pm	*Exam on Field: Chap 8, 9, 10 & 11*	

* Homework problems will accompany the reading assignments above based on class needs. Homework assignments for the coming week will be given out in class.