Syllabus

**PSY 5360-O:** **Applied Biostatistics in Health Research**

Fall 2018

**Instructor**: Krista Howard, PhD

**Email**: [kh44@txstate.edu](mailto:kh44@txstate.edu)

**Office Hours**: Tuesday 1:00-2:00 and by appointment

**Office**: UAC 253-F

**Textbook**:

Nonparametric Statistics for Health Care Research, 2nd Edition; by Marjorie A. Pett; Sage Publications. ISBN 978-1-4522-8196-4

**Course Objectives**:

This course will examine methodological approaches and applied biostatistics in health research. Emphasis for statistics will be on non-parametric univariate and multivariate statistical tests.

**Learning Outcomes**:

* Discriminate between various data collection techniques and survey instruments.
* Design survey items and determine appropriate scales.
* Assess methodological techniques used in health-based research.
* Determine appropriate parametric and non-parametric statistical tests based on research questions and data distributions.
* Conduct appropriate statistical tests in SPSS and interpret the results. Develop research proposals (methodology and design) and interpret findings.

**Grade Distributions**

A = 89.5% - 100% (GPA = 4.0)

B = 79.5% - 89.4% (GPA = 3.0)

C = 69.5% - 79.4% (GPA = 2.0)

D = 59.5% - 69.4% (GPA = 1.0)

F < 59.5% (GPA = 0)

**Grading Structure**

20% Assignments

25% Exam 1: Methods

25% Exam 2: Statistics

30% Project and Presentation

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| **Date** | **Topic** | **Assignment/ Readings** | **Assignment Due Date** |
| W1  8/28 | Methods:  Sampling, Response Bias,  Data Collection | Assignment:  Submit Reflection Response over 3 readings  (Gigliotti, 2011; Guise, 2010; Wells, 2012) | Reflection Response due Sept 4 |
| W2  9/4 | Methods:  Designing Questionnaires; Evaluating Instruments | Assignment:  Submit Reflection Response over 2 readings  (Graesser, 2000; Howlett, 2018) | Reflection Response due  Sept 11 |
| W3  9/11 | Methods:  Social Epidemiology | Assignment:  Submit Reflection Response over topics covered in lecture | Reflection Response due  Sept 18 |
| W4  9/18 | Methods:  Psychosocial Instruments  Data Collection - NHANES | No Assignment |  |
| W5  9/25 | Exam 1: Methods | No Assignment |  |
| W6  10/2 | Statistics:  Mann-Whitney U Test  Wilcoxon Rank Sum Test | HW 1 | HW 1 due  Oct 9 |
| W7  10/9 | Statistics:  Kruskal-Wallis Test  Chi-Square and Fisher’s Exact | HW 2 | HW 2 due  Oct 16 |
| W8  10/16 | Statistics:  Determining Appropriate Univariate Tests | HW 3 | HW 3 due  Oct 23 |
| W9  10/23 | Statistics:  Binary and Multinomial Logistic Regression | HW 4 | HW 4 due  Oct 30 |
| W10  10/30 | Statistics:  Poisson Regression  Negative Binomial Regression | HW 5 | HW 5 due  Nov 6 |
| W11  11/6 | Statistics:  Determining Appropriate Multivariate Tests | HW 6 | HW 6 due  Nov 13 |
| W12  11/13 | Exam 2: Statistics | No Assignment |  |
| W13  11/20 | \* No Class \* | No Assignment |  |
| W14  11/27 | Final Project:  Formulate Hypotheses  Data Collection (NHANES) | No Assignment |  |
| W15  12/4 | Final Project:  Analysis, Methods, Results | No Assignment |  |
| W16  12/11 | Final Project:  Presentation |  | Presentation due  Dec 11 |

**Disability Statement**

In accordance with university policy and federal law, all members of the university community are responsible for ensuring that students are not discriminated against because of a disability. To accomplish this goal, reasonable and appropriate academic accommodations may be necessary for qualified students with disabilities. The Office of Disability Services will coordinate with faculty members to facilitate necessary accommodations for students with disabilities.

**Honor Code**

As members of a community dedicated to learning, inquiry, and creation, the students, faculty, and administration of our University live by the principles in this Honor Code.  These principles require all members of this community to be conscientious, respectful, and honest.

WE ARE CONSCIENTIOUS.  We complete our work on time and make every effort to do it right. We come to class and meetings prepared and are willing to demonstrate it. We hold ourselves to doing what is required, embrace rigor, and shun mediocrity, special requests, and excuses.

WE ARE RESPECTFUL. We act civilly toward one another and we cooperate with each other. We will strive to create an environment in which people respect and listen to one another, speaking when appropriate, and permitting other people to participate and express their views.

WE ARE HONEST.  We do our own work and are honest with one another in all matters. We understand how various acts of dishonesty, like plagiarizing, falsifying data, and giving or receiving assistance to which one is not entitled, conflict as much with academic achievement as with the values of honesty and integrity.

THE PLEDGE FOR STUDENTS

Students at our University recognize that, to insure honest conduct, more is needed than an expectation of academic honesty, and we therefore adopt the practice of affixing the following pledge of honesty to the work we submit for evaluation

THE PLEDGE FOR FACULTY AND ADMINISTRATION

Faculty at our University recognize that the students have rights when accused of academic dishonesty and will inform the accused of their rights of appeal laid out in the student handbook and inform them of the process that will take place.

ADDRESSING ACTS OF DISHONESTY

Students accused of dishonest conduct may have their cases heard by the faculty member.  The student may also appeal the faculty member’s decision to the Honor Code Council. Students and faculty will have the option of having an advocate present to insure their rights.  Possible actions that may be taken range from exoneration to expulsion.