

SYLLABUS for STATISTICAL METHODS

DATE: Fall 2009

COURSE NUMBER AND TITLE: PSYC/SS/ECON 300.01 Statistical Methods

CREDIT HOURS: 3

TIME AND PLACE: 9:00 a.m. - 10:15 a.m. Mon/Wed, Library TCC

INSTRUCTOR: Teri Rust, Ph.D.

OFFICE: Spalding Hall 273, phone: 792-2276,

FAST e-mail: trust@lscs.edu, e-mail quizzes: tsrust@lscs.edu

OFFICE HOURS: M-TH 10:30-11:30, and by appointment

Course Description: This course is designed to provide students with a basic understanding of the fundamentals of statistics. The emphasis will be on understanding, application, and problem solving, not on extensive computations and the memorization of formulas. The concepts considered in this course are those related to the representation of information (descriptive statistics and graphs) and those concepts related to drawing conclusions based on sample data (inferential statistics, including probability, the normal distribution, and hypothesis testing—*independent t*, *dependent t*, correlation, chi square, ANOVA).

Text: Basic Statistical Concepts, 4th ed., by Bartz.
"Worksheets" booklet available at bookstore.

Required Equipment: A calculator with a square root key, and one YOU know how to operate.

A note to persons with disabilities. If you need course adaptations or accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible. My office location and office hours are printed above.

Prerequisite: Completion of the general education math requirement prior to enrollment. This means Finite Math, College Algebra or beyond.

General Course Objectives

Upon completion of the course, the student:

1. will be familiar with the various scales of measurement;
2. will be able to create and evaluate frequency distributions and various graphing techniques;
3. will be familiar with the calculations, uses, and interpretations of the three measures of central tendency;
4. will be familiar with the calculations, uses, and interpretations of measures of variability;
5. will be familiar with the calculations, uses, and interpretations of percentile ranks;
6. will be familiar with the normal curve model, using the normal curve table, and the basics of probability;
7. will be familiar with the basic theory behind hypothesis testing, including the concept of statistical significance;
8. will be able to follow the steps to carry out different types of t-tests and interpret the results;
9. will be familiar with the concepts of Type I and Type II errors;
10. will demonstrate an understanding of correlation, including the limitations of conclusions that can be drawn;
11. will be able to follow the steps to carry out one-way and two-way chi square analyses and interpret the results;
12. will be able to follow the steps to carry out a one-way ANOVA and interpret the results;
13. will be able to select the appropriate inferential analysis;

Attendance: Attendance is extremely important. Everything in statistics is cumulative, so if you miss class you will have a difficult time catching up. Attendance will be taken every day. It will be YOUR responsibility to sign in each day. If you know ahead of time that you will be gone, please let me know in writing (on the sign-in sheet or via e-mail). I do not follow a strict policy, but excessive absences will affect your ability to perform well in the course. **No** computers, texting, or cell phones during class, please.

Assignments: Most class periods will end with an outside assignment. It is strongly recommended you complete these in order to facilitate your understanding of the concepts we are discussing. In fact, it is highly unlikely you can pass the course without doing the homework. Anticipate spending approximately 2 hours outside of class for every hour in class.

I understand that statistics is frequently an avoided and unloved course. I will try to explain concepts thoroughly in class. I will be more than happy to address questions during class and outside of class. Do not expect to be able to satisfactorily complete this course by coming to class and **READING THE BOOK**--extra work is **CONSISTENTLY** required. You must be able to complete the homework worksheets without using your notes, text, or previously worked problems.

Tests: Four exams will be given in this course. The only acceptable reasons to miss an exam are extreme illness, absence while representing the college, or death in the family. In any case, I **MUST** be notified prior to the beginning of class for a make-up to be possible. **ALL EXAMS ARE CUMULATIVE!!!!**

Approximate point-values:

Test 1, Chpts 1-3 (80 pts)

Test 2, Chpts 4-5, + (90 pts)

Test 3, Chpts 6 & 9 (100 pts)

FINAL, Wed, Dec 16, Chpts 7, part of 13, 11 (130 pts)

Do NOT to leave for home or vacation before the final and expect to take it early. I do not allow tests to be taken early.

Quizzes: There are 3 online quizzes worth 5 points each. They will follow within a week of tests 1, 2, and 3. There will also be multiple in-class quizzes, and I will count your 5 highest scores.

Grading: Your final grade will be assigned largely (approx 98%) based on your performance on exams and quizzes. You may figure 90%, 80%, 70% cut-offs. I reserve the option of using +/- grading for those scores that fall close to the cutoffs. Other grading criteria include outside assignments and your mature approach to the subject as evidenced by attendance, classroom behavior, and attitude. This is a "web-enhanced" course, so you can access your scores/grades at any time thru Blackboard.

Grades and what they mean:

- A** Distinguished (Exceptional)
- B** Superior
- C** Average (Expected)
- D** Below Average
- F** Failing

Please feel free to stop by my office, call, or e-mail, if you need any assistance.