



Outline of Statistics

Course Description

This course covers the general principles of statistics, a method to describe numbers and distributions with graphs and tables so that reasonable assumptions can be made of a population given a sample.

Typical Course Mechanics:

- 1-3 hours of lecture a week (or 5 hours of online video)
- Weekly or every-other week quizzes
- One or two midterms (online or in class)
- One final (almost always in class)

A typical student should expect to spend about 2-4 hours in class (or watching online videos) and an additional 10+ doing homework and studying **per** week.

Topics Covered and Required Prereq skills

Topic	Prereq required
Exploring Data with Graphs and Numbers	Basic Math/ Pre-Algebra using graphs and charts
Normal Distribution and Z-score	Intermediate Algebra (One Variable Functions)
Scatterplots and Correlation	Beginning Algebra I (Linear Functions)
Probability	Basic Math/ Pre-Algebra (Working with fractions, proportions and percentages)
Inference: One Sample Testing	Intermediate Algebra (Functions)
Inference: Two Sample Testing	Intermediate Algebra (Functions)

PREPARING FOR THE COURSE

The following things can be done to help prepare for the course.

Prepare a formula sheet: Have a piece of paper available to write down all of the useful formulas you encounter throughout the quarter. These stats formula sheets can also be found online, and you can highlight relevant equations as you encounter them in class.

Purchase a graphing calculator: If you do not already own a graphing calculator, purchase one that allows you to see and edit your previous entry. One recommended calculator is the “TI-83 PLUS” from Texas Instruments. The model number must be 83 or higher to perform the required statistical functions such as linear regression and hypothesis testing.

Brush up on your intermediate algebra: If you have old algebra books, revisit: graphing equations of the form $y=mx+b$, equations that require you to substitute multiple variables with numbers and, ratios and proportions.

ADDITIONAL RESOURCES

ONLINE STATISTIC MATERIALS:

[HTTPS://WWW.KHANACADEMY.ORG/MATH/PROBABILITY/STATISTICS-INFERENTIAL](https://www.khanacademy.org/math/probability/statistics-inferential)

ONLINE ALGEBRA I REVIEW:

<https://www.khanacademy.org/math/algebra/introduction-to-algebra>

(Relevant topics: Ratios and Proportions, Graphing, and Analyzing Linear Functions, Evaluate Formula Using Substitution)

Training Fund Tutoring:

Both online and in-person group tutoring is available by request. Check out:

<http://healthcareerfund.org/tutoring/>

NOTE: This class is particularly challenging. Prepare/refresh in advance and don't get behind. Tutoring strongly recommended.