



# AP Statistics

## Course Description

The purpose of the AP course in statistics is to introduce students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. Students are exposed to four broad conceptual themes:

1. Exploring data: Describing patterns and departures from patterns
2. Sampling and Experimentation: planning and conducting a study
3. Anticipating Patterns: Exploring random phenomena using probability and simulation
4. Statistical Inference: Estimating population parameters and testing hypotheses

Students who successfully complete the course and examination may receive credit for a one-semester introductory college statistics course. The prerequisite for this course is a strong background in Math 3, AFM/Precalculus and English. The ability to communicate about the work you have done is a major portion of the exam – students should have the ability to write coherently. This is an activity-based course. Students will spend a significant portion of this class working together in small groups, exploring concepts through real world applications using technology.

This is a college-level course and will be conducted as such. Students are expected to be highly motivated. Students will be expected to complete assigned reading assignments prior to instruction.

Please do not ask for extra-credit assignments or test corrections. Students will not be permitted to retake tests and late work will not be accepted.

## Required Materials

- 1) a thick five-subject spiral or loose-leaf notebook
- 2) a graphing calculator (TI-83 or TI-84 recommended)
- 3) 2015-2016 edition of 5 Steps to a 5 for his or her own use, whether you plan to take the AP test or not
- 4) \$7 “lab materials” fee

I would appreciate a donated box of tissues for student use.

## Website

Please bookmark this—all graded assignments are found here:

<http://murphyathfvhs.weebly.com/>

## Course Goals

In AP Statistics, students are expected to learn

- To produce convincing oral and written statistical arguments, using appropriate terminology, in a variety of applied settings.
- When and how to use technology to aid them in solving statistical problems
- Essential techniques for producing data (surveys, experiments, observational studies, simulations), analyzing data (graphical & numerical summaries), modeling data (probability, random variables, sampling distributions), and drawing conclusions from data (inference procedures – confidence intervals and significance tests)
- To become critical consumers of published statistical results by heightening their awareness of ways in which statistics can be improperly used to mislead, confuse, or distort the truth.

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## Assessment

Your grade in this course will be determined by your performance on tests, graded assignments, presented homework problems, and exams. **Late work will not be accepted.** If you are absent the day a graded assignment is due, the expectation is that it will be handed it upon your return to class. All submitted work is to be written in complete sentences using proper grammar. **Grammatical and/or spelling mistakes will be penalized throughout the course.**

Tests will be given at the completion of each unit. Because this is a college-level course, the expectation is that students will work diligently to prepare homework problems. Students will be graded on the following basis:

<b>Homework Completion &amp; Presentation</b>	<b>15%</b>
<b>Graded Assignments/Labs</b>	<b>25%</b>
<b>Tests</b>	<b>60%</b>

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"Remember the old days when we used to eat his statistics homework?"

Homework will be checked daily for completion. Students with half of the assignment will receive a 3 point deduction from their homework grade; students with none of the assignment will receive a 6 point deduction from their homework grade. Homework grades will start at 100 each quarter and points lost may not be recovered. In addition, students will be asked to present homework problems to the class daily. A maximum of five students will be chosen through the use of a random number generator. Students will not be asked to present more than one problem per day.

All labs and graded assignments will be scored on their statistical accuracy and quality of communication.

This course will have a traditional final examination—seniors may exempt this exam according to FVHS exemption guidelines. All students will take the Midterm Examination and one or more AP Practice Tests.

## A Note about this course

The AP Exams are given in May, yet we will finish this class in January. The advantage to the fall course is that we will have a full 18 weeks to learn the material. The disadvantage is that you will be expected to remember it until May. The amount of effort you put in will be directly proportional to the amount of material you remember. This material is not intuitive to anyone... this is not the sort of math that you can sit back and watch me do on the board and figure out on your own. It takes a substantial amount of practice. Do the homework. It may not be easy to get an A in this class, but it is easy to pass if you put in the effort.

