

***“A knowledge of statistics is like a knowledge of foreign languages or of algebra; it may prove of use at any time under any circumstances.”***      ***- A.L. Bowley***

## **Course Overview**

This course is designed to provide a thorough investigation of beginning statistical concepts at the college level. To assist students in making connections and drawing inferences, this course makes extensive use of projects, simulations, and real world situations/data. Major topics include the organization and exploration of collected data, descriptive statistics, probability, and inferential statistics. Each group of chapters is geared towards clearly teaching, then reinforcing the major AP concepts listed by the College Board website as well as the course requirements established by the University of Pittsburgh. Each group of chapters will include at least one student driven assignment or activity. Review of previously learned material is ongoing and a diverse number of topics will be revisited on a regular basis.

Required payment of \$89.00 for the AP Exam.

Students may concurrently earn University of Pittsburgh Credits for a fee of \$225.00.

Payments must be submitted within the first two weeks of school, or the student will be withdrawn from class.

## **Prerequisites:**

Juniors must have a grade of 90% or higher in Academic Algebra 1, Academic Geometry, Academic Algebra 2 and Academic Algebra 3/Trig.

Seniors must have a grade of 80% or higher in Academic Algebra 1, Academic Geometry 1, Academic Algebra 2 and Academic Algebra 3/Trig.

Students planning on taking AP Probability and Statistics and Academic Algebra 3/Trig concurrently require teacher recommendation.

It is important to remember that being an efficient and skilled writer is essential for success in AP Statistics / Pitt Stats. Sometimes questions in this course may seem like an English report or Science lab.

## **Primary Course Materials:**

Bock, Velleman, De Veaux. *Stats: Modeling the World*. Addison-Wesley. 2010.

Pearson Education AP Test Prep Series: AP Statistics. 2010

Brase and Brase. *Understandable Statistics*. Houghton Mifflin Co. 2003.

Mendenhall, Beaver and Beaver. *Introduction to Probability and Statistics*. Brooks/Cole. 1999.

AP Released Open-ended and Multiple Choice items 2001-2013. College Board website.

Various websites as required for statistics/probability related projects

Minitab Software

TI-84 Plus graphing calculator

## **Assessment**

### **Quizzes:**

Quizzes, though rare, may be administered throughout each group of chapters. They will always be announced. The content on each will be limited to the topics in the current chapter.

### **Tests:**

Tests are to be given at the end of every group of chapters. Though the primary focus of each test will be on the current chapters, any material previously covered could possibly be referenced. In an effort to prepare you for the AP Exam / Pitt Stats exams, all tests will have both multiple choice and free-response questions.

### **Homework:**

Homework will be assigned almost nightly throughout the course. All problems assigned are intended to supplement classroom instruction and will closely resemble problems previously discussed in class. Assignments will occasionally be graded for correctness and completeness.

### **Open-ended Writing:**

Open-ended writing prompts will be assigned throughout the course based on content currently under study. Most of these will be open-ended questions retrieved from the College Board website. This will ensure that the students are preparing for questions that follow the same format as the AP Exam / Pitt Stats exams.

### **Activities, Projects, and Simulations:**

Once a chapter has been taught in the classroom setting, projects are designed to supplement previously discussed content and to illustrate the concepts of the current unit.

Simulations and activities are employed using random number tables, random number generation with technology such as excel, dice, and cards. These simulations are designed to mimic real world events. These activities require the student to explain and support conclusions.

### **Grading:**

The grade for each nine-week period will be determined according to all points accumulated during that grading period. Points are earned through tests, quizzes, homework, classroom activities/projects. Tests and quizzes make up approximately 60% of the possible points, while homework makes up approximately 20% of the possible points, and projects/activities make up approximately 20% of the possible points.

Please note that the University of Pittsburgh grade may differ from that of the final grade in the class on the Sharpville report card. The University of Pittsburgh uses a vastly different percentage allocation for the exams.

**Grading Scale:** A = 100-90% B = 89-80% C = 79-70% D = 69-60% F = 59-0%