# AP Statistics

**Questions? Contact Ms. Emily Brandon at emily.brandon@lcps.org**

**Why Take Stats:**

We live in an information society; raw data, graphs, charts, rates, percentages, probabilities, averages, forecasts, and trend lines are an inescapable part of our everyday lives. It is hard to pick up a newspaper without finding an article in which a recent study makes a claim about the effect of a food product on people's health. Studies in which people who ate oatmeal had lower cholesterol than those who did not might suggest that those with high cholesterol would be wise to eat oatmeal. In AP Statistics, we learn to examine the details of the study to see if a true experiment was conducted with subjects randomly assigned to treatments, and whether other factors were involved. Other factors include questioning whether the oatmeal really lowered cholesterol or whether the subjects ate oatmeal instead of eating four fried eggs! Would eating cornflakes have had the same effect? Is oatmeal the factor, or is it the change from a high cholesterol breakfast?

**Who Takes AP Stats?**

- Students who like real world application mathematics
- Seniors and Juniors who have been successful with Algebra 2
- Students who want to earn college credit with an AP exam score of 3, 4, or 5
- Students who love reading and writing

*Note*: Take AP Stats with another math course if you're taking AP Stats in your Junior year.

**Assignments:**

- Reading Guides and practice for each chapter to be done at home and discussed in class
- Problem Sets
- Graded Practice
- Practice and Studying required

**Assessments:**

- One or Two Quizzes Per Unit
- 10-12 Unit Tests per year
- Problem Sets
- Projects
- An end of year Cumulative Project
- Cumulative Assessments throughout the year.

*Note*: Tests are timed & modeled after the AP exam

**Workload:**

- Expect a college-level workload
- Expect the need to read more than the need to do mathematical calculations
- Expect homework every day
- Expect a lot of vocabulary
- Expect the need to practice
- Expect the use of a calculator
- Expect a pre-course summer assignment

**AP Exam:**

- Given in May, 3 hours long
- 90 minutes: 40 multiple choice
- 90 minutes: 5 open-ended questions designed to be answered in about 12 minutes each, and a longer investigative task for which 30 minutes is allotted

**This course is focused on . . .**

- **exploring data**.
  - What patterns in a set of data do you see?
  - What do these tell us about the data?
  - What can we learn from them?
- **sampling and experimenting**.
  - What plan would you implement to conduct a study?
  - Can you effectively write a proposal for simulating a real-world situation?
- **anticipating patterns**.
  - What can you surmise about random phenomena by using probability?
  - How can you extrapolate your model into the future?
  - What might you hope to have happen?
- **statistical inference**.
  - How can you apply given parameters to your test hypothesis to see if it is valid?

**Students who wish to take AP Stats and perform well must have . . .**

- **a committed work ethic**.
  - There is textbook reading and reading guide questions to answer. Most of the actual practice is done in the classroom but time must be set aside to practice these concepts on your own.
- **great listening skills**.
  - Some of the best learning comes from hearing other students ask the questions that are troubling you.
- **initiative**.
  - Students must be willing to go beyond what is *asked* of them and do what is *expected* of an AP student.
- **a good ability to work with others**.
  - The course requires students, daily, to cooperatively problem-solve. Successful group work is a necessity.
- **the willingness to build interdisciplinary connections with other subjects**.
  - An appreciation for how statistics is connected to the world outside the classroom (and a broad base of general knowledge about the world) is key.
- **their own TI-nSpire calculator (to practice outside of class) and a working email account that is checked frequently**.
  - We use a calculator every class to visually see data displays and to run tests on our data sets.
- **a desire to score a 5 on the AP Exam**.
  - Anything less than this as a goal will show, both in decreased enthusiasm for the class and in earned grades.