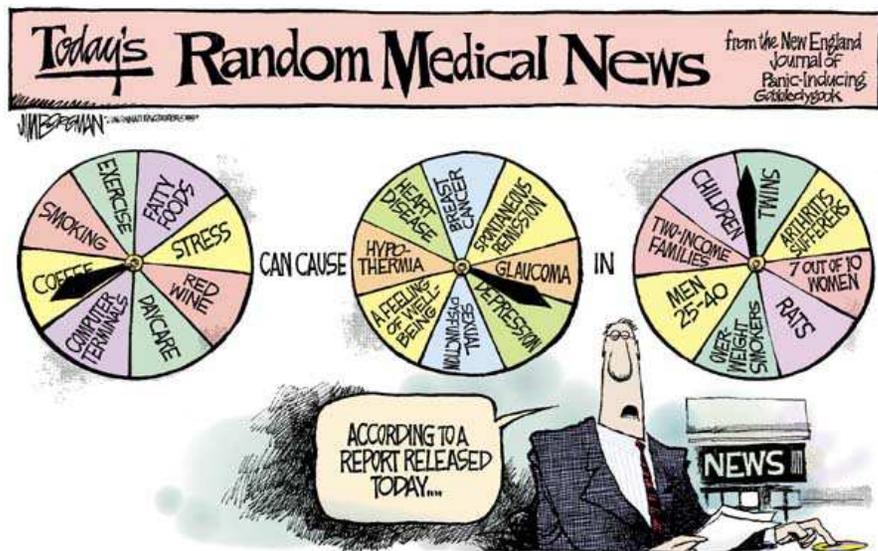


Practical Applications of Statistics
In the Work Place And In Everyday Life

Advanced Placement Statistics @Edison

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 studies. We might question if oatmeal really lowered cholesterol or did the subjects just eat oatmeal instead of their normal breakfast of two fried eggs? Perhaps eating cornflakes would have had the same effect.



http://www.nearingzero.net/sci_math_and_stats.html

Many **companies** use statistics. **Business** decisions are made based on market research. **Advertising executives** want to know whether a new ad campaign significantly increases sales. **Doctors** must know the reliability of medicine and treatments. Products such as **pharmaceuticals** require significant evidence of effectiveness and safety. **Politicians** rely on data from polls and public opinion. **Courts** inquire about statistical significance in hearing class action discrimination cases. Any company that expects to obtain a **government contract** must have strong evidence of a statistical quality control program. **Statistical literacy** is important as we are all **consumers** of goods and services and need to make intelligent choices. Advanced Placement Statistics provides the opportunity for students to learn how to make good decisions with data.

This brochure is based on a similar brochure by Michelle Krummel of Wilde Lake HS, Columbia, MD.

AP Stats FAQ

What is AP Statistics?

AP Stats is a college level introductory course in statistics. You'll learn how to collect, organize, analyze, and interpret data.

Why should I take it?

Statistics is the most widely applicable branch of mathematics. It is used by more people than any other kind of math.

How hard is AP Stats?

It's a college course, so the expectations are high. You will need to think hard about the concepts. You'll write – a lot. Grades are mostly based on demonstrated mastery, not just effort or attendance. There is plenty of work, yet we don't turn in much of it. You **MUST** be a self-motivated scholar. in order to succeed.

What is class like?

Nearly every day we cover something new. We rarely go over HW in class. Sometimes we do labs – which always seem to involve a food item (*cough* M&Ms *cough*!)

Do you have to be a top-rate mathematician?

The course does not depend heavily on abstract mathematical concepts, but you **DO** need a **very strong background in Algebra II** – regular or honors. Our calculators will help us with much of the numeric drudgery inherent in statistics. More importantly, you must be an AP-level self-motivated scholar who reads the **BOOK**, stays caught up, and does all HW on a daily basis.

Can I take Stats in college?

Yes. Statistics is required for many majors, and strongly recommended for others. However, many Edison students have received AP grades high enough to get credit for the introductory course.

Why take it at Edison?

At Edison, it's a full year course, rather than a college semester, so we go at a more reasonable pace. You have more time for instruction and group work in the classroom, and more access to a helpful instructor (me) vs. a college professor.

Would it be my only math course next year?

It could be. Many students also enroll in a PreCalc or Calculus course and find the combination 'do-able'. In any case, Stats is not really just a 'math' course – it's a whole different sort of animal.

Who can sign up?

You must have a **very strong background in Algebra II** (regular or honors), the recommendation of your current math teacher, and **top-notch** scholarly skills & habits.

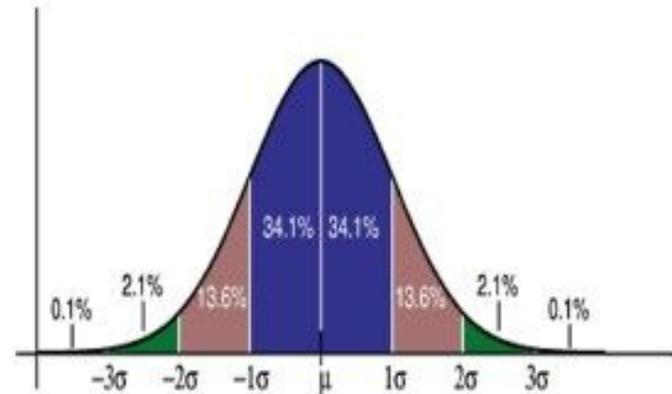
Who does sign up?

Typically Juniors and Seniors, with an occasional extremely motivated sophomore.

Need more info?

See Ms. Scarbrough in Room 51!

DON'T BE MEAN



BE ABOVE AVERAGE

© WORDS & UNWORDS

What the Course Covers The Four Major Components of AP Stat

- 1. Experimental Design**
Students design appropriate experiments & surveys in order to generate quality data, so that proper and defensible conclusions can be drawn – and generalized.
- 2. Exploring Data**
Students collect and examine data and display the patterns that emerge. Data from students in class as well as real world data sets are gathered and used to illustrate concepts.
- 3. Producing Models Using Probability and Simulation**
Students learn to anticipate patterns and produce models for prediction. Students use simulations to model situations that are not practical to replicate using other methods.
- 4. Statistical Inference**
Students learn what conclusions can be drawn about a population, using confidence intervals and significance tests. Students also consider how to investigate research questions, design a study, and interpret the results.