

Statistics for Everyone

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The Detroit Chapter of ASA has received a Strategic Initiative Grant to expand the training of secondary teachers to teach a “Statistics for Everyone” course. The high school course was developed at the Macomb (Michigan) Intermediate School District with input from statisticians at Ford Motor Company, GM, and Merck. The course gives students a clear notion of the existence of variability in any process and how to identify, quantify, and deal with it in making decisions. There is also an emphasis on graphics and good communication skills. The course is completely activity-driven.

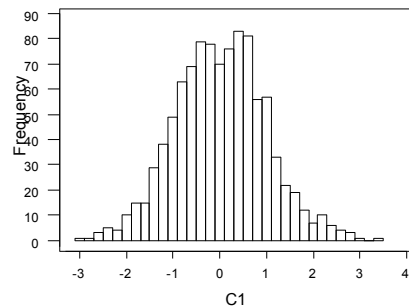
The course, which is a course for any high school student, rather than an AP stat course, is currently being taught in 9 Macomb County schools, and 8 other schools are offering parts of the course in current math or science courses. One of these schools has made a semester of statistics a requirement for graduation and they estimate that 75% of their students will take this course.

There are teacher manuals, student manuals and assessment manuals available for teachers who take the training course. There is also a Blackboard course available as support, with interactive on-line activities available for the students.

Of particular interest to science teachers is the fact that besides basic statistical procedures, we explore the multivariate experimentation procedures prevalent in industry. We have had both math and science teachers take the training course.

We will have the equipment and manuals that we use in the course on display. We will also have a computer available to view the Blackboard course available. On the following page is a typical schedule from the 4 hours a week, 16 week training program for teachers. Teachers who take the program can earn 4 semester hours of credit from Oakland University or 12 CEU's.

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Sixteen Week Schedule for the Training Program for “Statistics for Everyone”

Greed Activity	Descriptive Statistics/Graphics
Cereal Activity	Descriptive Statistics/Graphics
Ruler Activity	Standard Deviation/Normal Distribution
Squares Activity	Sampling Distributions
Popcorn Activity	SPC/Boxplots
Bathroom Scale Activity	Paired Data/ Scatterplots
Cartoons Activity	Correlation
Ways of Knowing/Cube Day	What is an Experiment?/3-D Graphing
Crater	A One Factor Experiment with a Continuous Independent Variable.
Eye-Hand (Ergonomics)	A One Factor Experiment with a Categorical Independent Variable
One Factor Funnel	Another One Factor Experiment /Precision and Accuracy
Introduction to Two Factor Experiments	Using a Cube to Visualize the Results of a 2x2 Factorial Experiment; Predictor Equations and Model Adequacy
Iodine Clock	A 2x2 Factorial Experiment
2x2x2 Helicopter/Algorithmic Method	A 2x2x2 Experiment and Analysis
Helicopter Day 2	Using the Algorithmic Method with the Ti-83 and Minitab
Presentations	Teachers present experiments that they have designed for their classrooms