Middleborough High School
Honors Statistics & Probability

Mr. Coutinho
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Credits: 5
Textbook: D. Starnes, D. Yates, D. Moore; Statistics Through Applications, WH Freeman & Co, New York, 2011.
Additional Resources: Against All Odds: Inside Statistics, Annenberg Learner, 2013.
http://www.learner.org/resources/series65.html

Course Overview & Goals: The course will focus on 9 primary standards in statistics: 1. summarize, represent, and interpret data on a single count or measurement variable, 2. summarize, represent, and interpret data on two categorical and quantitative variables, 3. interpret linear models, 4. understand and evaluate random processes underlying statistical experiments, 5. make inferences and justify conclusions from sample surveys, experiments, and observational studies, 6. understand independence and conditional probability and use them to interpret data, 7. use the rules of probability to compute probabilities of compound events in a uniform probability model, 8. calculate expected values and use them to solve problems, and 9. use probability to evaluate outcomes of decisions. This course will emphasize the theoretical concepts involved in statistical formulas. Topics in this course are introduced first from a mathematical approach where the mathematical methods are learned first. Understanding is then expanded through the use of activities and projects where students can apply the concepts. Although not a necessity, **a graphing calculator such as TI-83 Plus is strongly suggested.**

Expectations of Students: Students are expected to come to class prepared. The rules for behavior as indicated in the student handbook will be enforced. Students are expected to have mastered the concepts learned in previous courses, including exploring expressions, equations, and functions, rational numbers, solving linear equations, proportional reasoning, graphing relations and functions, analyzing linear equations, and rational and radical expressions. Students are expected to actively participate during class and seek help if they are having trouble understanding any concepts from prior courses or the current class. Students that miss class are expected to make up any missed assignments in accordance with the policy contained in the student handbook. Students are expected to complete work on time. Some credit will be given for late work according to the following guideline: Class work/Homework – 1 day late receives 50%, 2 days late or more receive no credit. Projects – minus 5% penalty for each class period the project is turned in after due date.

After School Help: Students are welcome to remain after school any day from 1:50 to 2:20. Extended times can be made upon request. The only exceptions to this are dates of faculty meetings and early release dates
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Grading:
Tests: 45%
Projects: 20%
Quizzes: 20%
Classwork / Homework: 5% / 10%

Course Sequence
- Introduction to Statistics: The Basics – 2 Weeks
- Describing Distributions of Data – 2 Weeks
- Modeling Distributions of Data – 2 Weeks
- Describing Relationships – 2 Weeks
- Samples Surveys & Experiments – 2 Weeks
- Probability: What are the Chances? – 2 Weeks
- Probability Models – 2 Weeks
- Inference for Proportions – 2 Weeks
- Statistics in Practice – 2 Weeks