PETERS TOWNSHIP HIGH SCHOOL
COURSE SYLLABUS: AP STATISTICS

Course Overview and Essential Skills

This course is a study of the language, concepts, and techniques of statistics. This course is very similar to a college statistics courses. Topics include sampling, experimental design, probability, confidence intervals and hypothesis testing. This course will contain real data, some that students collect about themselves and some from commonly available resources. This data will then be organized and analyzed using various statistical methods. We strive to help students understand statistical concepts so they can thoughtfully consider and communicate the conclusions of a study. This course will require the student to be an active learner and be able to work in cooperative groups throughout the year. AP Statistics is highly dependent on student-to-student interaction and activities rather than teacher-centered lessons and rote memorization. All students will be expected to take the Advanced Placement Exam in May, and those students will be exempt from the course final in June.

Course Textbook and Required Materials

- Title: *Workshop Statistics: Discovery with Data* , 4th Edition. ISBN#: 978-0-470-54209-5
- Required daily materials: Textbook, Three-Ring Binder, Pencil, Graphing Calculator (TI-83 Plus, TI-84, or TI-84 Plus)

Course Outline of Material Covered

Unit or Topic	Concepts/Skills/Resources	Timeframe
Collecting Data and Drawing Conclusions	Classify Variables as Quantitative or Categorical Construct and Interpret Visual Displays Identify Confounding Variables Implement Random Sampling Distinguish between Experiments and Observational Studies Topics 1-5 Released AP Exam Questions http://www.rossmanchance.com/applets/index.html	5 weeks
Summarizing Data	Construct and Interpret Visual Displays Analyze Measures of Center Analyze Measures of Spread Topics 6-10 Released AP Exam Questions http://www.rossmanchance.com/applets/index.html	5 weeks

Randomness in Data	Create and Run Simulations Calculate Probabilities Use Normal Distributions to Approximate Probabilities Analyze Sampling Distributions Apply the Central Limit Theorem Topics 11-15 Released AP Exam Questions http://www.rossmanchance.com/applets/index.html	4 weeks
Inference from Data: Principles	Construct and Interpret Single Sample Confidence Intervals and Tests of Significance Topics 16-20 Released AP Exam Questions http://www.rossmanchance.com/applets/index.html	6 weeks
Inference from Data: Comparisons	Construct and Interpret Two Sample Confidence Intervals and Tests of Significance Topics 21-23 Released AP Exam Questions http://www.rossmanchance.com/applets/index.html	6 weeks
Inferences with Categorical Data	Construct and Interpret Chi-Square Tests Topics 24-25 Released AP Exam Questions http://www.rossmanchance.com/applets/index.html	2 weeks
Relationships in Data	Create and Analyze Scatterplots Create and Interpret Least Squares Regression Lines Construct and Interpret Inference for Correlation Topics 26-29 Released AP Exam Questions http://www.rossmanchance.com/applets/index.html	4 weeks
Post Exam Topics	Interpret ANOVA tests Interpret 2 Sample F tests Calculate Geometric Probabilities Film Study: *A Civil Action* Other topics time permitting	4 weeks

Depending on the needs of the class or changes in the school year, the course outline is subject to change.