

ADVANCED PLACEMENT STATISTICS  
GRADES 11-12  
(2 Semesters - Prerequisite: Successful completion of Advanced Algebra)

COURSE OVERVIEW:

<p>This class is an introduction to probability and statistics. It is equivalent to a one semester three hour college course. Students will learn to summarize statistical data graphically and numerically. They will learn how data is collected and they will plan and carry out a survey or experiment of their own. Students will learn how to calculate probabilities and will learn about the importance of the normal distribution in probability and statistics. Students will also learn about confidence intervals and significance testing and how they are used in practice for both large and small data sets.</p>
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UNITS OF INSTRUCTION:

- UNIT I - Exploring Data
- UNIT II - Planning a Study
- UNIT III - Anticipating Patterns in Advance - Probability and Simulation
- UNIT IV - Statistical Inference - Confirming Models

STUDENT OUTCOMES:

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| <ol style="list-style-type: none"><li>1. The students will observe patterns and departures from patterns.</li><li>2. The students will plan a study and decide what and how to measure.</li><li>3. The students will understand and use probability and simulation in order to anticipate patterns in advance.</li><li>4. The students will learn to make statistical inferences and use models to confirm their inferences.</li></ol> <p>This course addresses the following state standards: 6A, 6B, 6C, 6D, 7A, 7B, 7C, 8A, 8B, 8C, 8D, 9C, 10A, 10B, 10C.</p> |
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MAJOR LEARNING EXPERIENCES TO ACHIEVE OUTCOMES:

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| 1. | Daily class work.  |
| 2. | Weekly problem sets: Students are given a set of problems to submit the following week.  |
| 3. | Plan and carry out a study and experiment related to statistics.   |
| 4. | Become "statistically literate." Be able to read and understand a statistical summary or report.<br>Use statistical functions on a graphing calculator or computers to calculate and write |
| 5. | statistical reports.   |
| 6. | Quizzes and unit tests – show understanding of course goals.   |

ADOPTED TEXT OR PRINCIPAL MATERIALS USED:

Yates. <i>The Practice of Statistics</i> . Freeman, 1999.
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(adopted, 2000)
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