

Blackhawk School District

CURRICULUM

Course Title: Statistics

Course Number: 0335

Grade Level(s): 10-12th

Length of Course: 1 semester

Credit: .5 credits

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COURSE DESCRIPTION:

This course is a one-semester introduction to statistical topics. It analyzes the purposes and pitfalls of statistical studies and experiments. This course includes the study of data sets, graphical representations, data analysis, correlation, regression, and probability. Statistics is not a prerequisite for AP Statistics (0360); however students are encouraged to take Statistics

Units	Objectives	Standards
Introduction to Statistics	The Nature of Data Uses and Abuses of Statistics Design of Experiments Summarizing Data Pictures of Data	<p>M11.D.1.1.1 Analyze a set of data for the existence of a pattern.</p> <p>M11.D.1.1.1 Represent the pattern of a set of data algebraically.</p> <p>M11.D.1.1.1 Represent the pattern of a set of data graphically.</p> <p>M11.E.1.1.1 Use appropriate graphical representations of data, including box-and-whisker plots, stem-and-leaf plots or scatter plots.</p> <p>M11.E.1.1.1 Create appropriate graphical representations of data, including box-and-whisker plots, stem-and-leaf plots or scatter plots.</p> <p>M11.E.1.1.2 Analyze data and/or answer questions based on displayed data (box-and-whisker plots, stem-and-leaf plots or scatter plots).</p> <p>M11.E.2.1.1 Calculate the appropriate measure of central tendency (mean, mode or median) of a set of data given or represented on a table, line plot or stem-and-leaf plot</p> <p>M11.E.2.1.1 Select the appropriate measure of central tendency (mean, mode or median) of a set of data given or represented on a table, line plot or stem-and-leaf plot.</p> <p>M11.E.2.1.2 Calculate and/or interpret the range.</p> <p>M11.E.2.1.2 Calculate and/or interpret quartiles</p> <p>M11.E.2.1.2 Calculate and/or interpret interquartile range of data</p> <p>M11.E.2.1.3 Describe how outliers affect measures of central tendency</p> <p>2.5.11.A Develop a plan to analyze a problem, identify the information needed to</p>

		<p>solve the problem, carry out the plan, check whether an answer makes sense, and explain how the problem was solved in grade appropriate contexts.</p> <p>2.5.11.B Use symbols, mathematical terminology, standard notation, mathematical rules, graphing and other types of mathematical representations to communicate observations, predictions, concepts, procedures, generalizations, ideas, and results.</p> <p>2.6.11.A Design and conduct an experiment using random sampling.</p>
Exploring Data	<p>Measures of Central Tendency</p> <p>Measures of Variation</p> <p>Measures of Position</p> <p>Exploring Data Analysis</p>	<p>M11.D.1.1.1 Analyze a set of data for the existence of a pattern.</p> <p>M11.D.1.1.1 Represent the pattern of a set of data algebraically.</p> <p>M11.D.1.1.1 Represent the pattern of a set of data graphically.</p> <p>M11.E.1.1.1 Use appropriate graphical representations of data, including box-and-whisker plots, stem-and-leaf plots or scatter plots.</p> <p>M11.E.1.1.1 Create appropriate graphical representations of data, including box-and-whisker plots, stem-and-leaf plots or scatter plots.</p> <p>M11.E.1.1.2 Analyze data and/or answer questions based on displayed data (box-and-whisker plots, stem-and-leaf plots or scatter plots).</p> <p>M11.E.2.1.1 Calculate the appropriate measure of central tendency (mean, mode or median) of a set of data given or represented on a table, line plot or stem-and-leaf plot</p> <p>M11.E.2.1.1 Select the appropriate measure of central tendency (mean, mode or median) of a set of data given or represented on a table, line plot or stem-and-leaf plot.</p> <p>M11.E.2.1.2 Calculate and/or interpret the range.</p> <p>M11.E.2.1.2 Calculate and/or interpret quartiles</p> <p>M11.E.2.1.2 Calculate and/or interpret interquartile range of data</p> <p>M11.E.2.1.3 Describe how outliers affect measures of central tendency</p> <p>2.5.11.A Develop a plan to analyze a problem, identify the information needed to solve the problem, carry out the plan, check whether an answer makes sense, and explain how the problem was solved in grade appropriate contexts.</p> <p>2.5.11.B Use symbols, mathematical terminology, standard notation, mathematical rules, graphing and other types of mathematical representations to communicate observations, predictions, concepts, procedures, generalizations, ideas, and results.</p> <p>2.7.11E Use probability to make judgments about the likelihood of various outcomes.</p>
Probability	<p>Fundamentals of Probability</p> <p>Addition Rule</p> <p>Multiplication Rule</p> <p>Counting Rules</p>	<p>M11.E.3.1.1 Find probabilities for independent events and represent as a fraction, decimal or percent.</p> <p>M11.E.3.1.1 Find probabilities for dependent events and represent as a fraction, decimal or percent.</p> <p>M11.E.3.1.1 Find probabilities for compound events and represent as a fraction, decimal or percent.</p> <p>M11.E.3.1.1 Find the odds of a simple event.</p> <p>M11.E.3.1.1 Convert the odds of a simple event.</p>

		<p>M11.E.3.1.1 Compare the odds of a simple event.</p> <p>M11.E.3.1.2 Find the probability of a simple event.</p> <p>M11.E.3.1.2 Convert the probability of a simple event.</p> <p>M11.E.3.1.2 Compare the probability of a simple event.</p> <p>M11.E.3.2.1 Apply the fundamental counting principle. (Formula provided on the reference sheet).</p> <p>M11.E.3.2.1 Determine the number of combinations for an event (Formula provided on the reference sheet).</p> <p>M11.E.3.2.1 Determine the number of permutations for an event. (Formula provided on the reference sheet).</p> <p>M11.E.4.1.1 Estimate to make predictions based on a circle graph.</p> <p>M11.E.4.1.1 Calculate to make predictions based on a circle graph.</p> <p>M11.E.4.1.1 Estimate to make predictions based on a line graph.</p> <p>M11.E.4.1.1 Calculate to make predictions based on a line graph.</p> <p>M11.E.4.1.1 Estimate to make predictions based on a bar graph.</p> <p>M11.E.4.1.1 Calculate to make predictions based on a bar graph.</p> <p>M11.E.4.1.1 Estimate to make predictions based on a given situation.</p> <p>M11.E.4.1.1 Calculate to make predictions based on a given situation</p> <p>M11.E.4.1.2 Use probability to predict outcomes</p> <p>2.5.11.A Develop a plan to analyze a problem, identify the information needed to solve the problem, carry oiut the plan, check whether an answer make sense, and explain how the problem was solved in grade appropriate contexts.</p> <p>2.5.11.B Use symbols, mathematical terminology, standard notation, mathematical rules, graphing and other types of mathematical representations to communicate observations, predictions, concepts, procedures, generalizations, ideas, and results.</p> <p>2.7.11E Use probability to make judgments about the likelihood of various outcomes.</p>
Probability Distributions	<p>Random Variables</p> <p>The Binomial Distribution</p> <p>Mean, Variance and Standard Deviation of the Binomial</p>	<p>2.5.11.A Develop a plan to analyze a problem, identify the information needed to solve the problem, carry oiut the plan, check whether an answer make sense, and explain how the problem was solved in grade appropriate contexts.</p> <p>2.5.11.B Use symbols, mathematical terminology, standard notation, mathematical rules, graphing and other types of mathematical representations to communicate observations, predictions, concepts, procedures, generalizations, ideas, and results.</p> <p>2.7.11E Use probability to make judgments about the likelihood of various outcomes.</p>
The Normal Distribution	<p>The Standard Normal Distribution</p> <p>Finding Probabilities</p> <p>Finding Scores</p> <p>The Central Limit Theorem</p>	<p>2.5.11.A Develop a plan to analyze a problem, identify the information needed to solve the problem, carry oiut the plan, check whether an answer make sense, and explain how the problem was solved in grade appropriate contexts.</p> <p>2.5.11.B Use symbols, mathematical terminology, standard notation, mathematical rules, graphing and other types of mathematical representations to communicate observations, predictions, concepts, procedures, generalizations, ideas, and results.</p> <p>2.7.11E Use probability to make judgments about the likelihood of various outcomes.</p>

