

Power Standards

- MaPS1 The student will be able to demonstrate number sense through counting and cardinality.
- MaPS2 The student will be able to apply the use of operations and algebraic thinking.
- MaPS3 The student will be able to show understanding of number and operations in base ten.
- MaPS4 The student will be able to demonstrate knowledge of measurement and data.
- MaPS5 The student will be able to describe basic elements of geometry.

Learning target

- MaPS1.LT1 I can count in a sequence to 100 by 10's and 1's and count forward from any given number.
- MaPS1.LT2 I can count to tell the number of objects, 0-20, using different strategies.
- MaPS1.LT3 I can recognize random numbers within 100.
- MaPS1.LT4 I can write number 0 to 100.
- MaPS1.LT5 I can compare digits 0-10.
- MaPS2.LT1 I can represent and solve addition as putting together and adding to, within 10, with or without manipulatives.
- MaPS2.LT2 I can represent and solve subtraction as taking apart and taking from, within 10, with or without manipulatives.
- MaPS2.LT3 I can compose and decompose numbers less than or equal to 10 using objects, drawings, or equations.
- MaPS3.LT1 I can compose numbers from 11 - 19 into ten ones and some further ones using objects, ten frames, drawings, or equations.
- MaPS3.LT2 I can decompose numbers from 11 - 19 into ten ones and some further ones using objects, ten frames, drawings, or equations.
- MaPS4.LT1 I can describe and compare measurable attributes of objects.
- MaPS4.LT2 I can classify objects and explain each category.
- MaPS5.LT1 I can identify and describe shapes.
- MaPS5.LT2 I can analyze shapes.

Course Details

UNIT: 1. Numbers 1-100 -- 16 Week(s)

UNIT: 2. Addition and Subtraction -- 13 Week(s)

UNIT: 3. Measurement -- 2 Week(s)

UNIT: 4. Shapes -- 2 Week(s)

Power Standards

MaPS1 The student will be able to explain the use of number and operations in base ten.
MaPS2 The student will be able to explain the use of operations and algebraic thinking.
MaPS3 The student will be able to interpret measurement and data.
MaPS4 The student will be able to analyze geometric shapes.

Learning target

MaPS1.LT1 I can extend the counting sequence to 120.
MaPS1.LT2 I can understand place value and compare 2-digit numbers.
MaPS1.LT3 I can use my knowledge of place value to add and subtract within 100.
MaPS2.LT1 I can add and subtract fluently within 10.
MaPS2.LT2 I can add and subtract within 20.
MaPS2.LT3 I can solve addition and subtraction word problems within 20.
MaPS2.LT4 I can work with equations.
MaPS3.LT1 I can tell and write time to the hour and half hour.
MaPS3.LT2 I can represent and interpret data.
MaPS3.LT3 I can compare length using non-standard units of measurement.
MaPS4.LT1 I can use my knowledge of defining attributes to work with shapes.
MaPS4.LT2 I can partition and describe shapes.

Course Details

UNIT: 1. Frontloading -- 2 Week(s)

UNIT: 2. Addition and Subtraction Strategies within 10 -- 6 Week(s)

UNIT: 3. Addition and Subtraction Equations within 20 -- 8 Week(s)

UNIT: 4. Story Problems -- 4 Week(s)

UNIT: 5. Place Value -- 4 Week(s)

UNIT: 6. Measurement -- 1 Week(s)

UNIT: 7. Telling Time -- 2 Week(s)

UNIT: 8. Graphing and Data -- 2 Week(s)

UNIT: 9. Geometry -- 3 Week(s)

UNIT: 10. Add and Subtract within 100. -- 2 Week(s)

Power Standards

- MaPS1 The student will be able to apply the use of operations and algebraic thinking with addition and subtraction.
- MaPS2 The student will be able to explain number and operations in base ten.
- MaPS3 The student will be able to evaluate measurement and data.
- MaPS4 The student will be able to apply understanding of geometry.

Learning target

- MaPS1.LT1 I can represent and solve one and two step problems involving addition and subtraction within 100.
- MaPS1.LT2 I can fluently add and subtract within 20.
- MaPS1.LT3 I can use addition to find the total number of objects arranged in arrays and write an equation to express the total as a sum of equal addends.
- MaPS2.LT1 I can read and write numbers to 1,000 using base ten numerals, number names, and expanded form.
- MaPS2.LT2 I can compare two three digit numbers based on the meaning of hundreds, tens, and ones.
- MaPS2.LT3 I can add and subtract within 1,000.
- MaPS3.LT1 I can measure and estimate length in standard units.
- MaPS3.LT2 I can tell and write time to the nearest 5 minutes using A.M. and P.M.
- MaPS3.LT3 I can solve word problems involving dollar bills and mixed coins using the dollar sign and cent sign appropriately.
- MaPS3.LT4 I can represent and interpret data.
- MaPS4.LT1 I can recognize and draw shapes having specified attributes.
- MaPS4.LT2 I can describe the whole as $\frac{2}{2}$, $\frac{3}{3}$, and $\frac{4}{4}$.

Course Details

UNIT: 1. Understanding Addition and Subtraction -- 2 Week(s)

UNIT: 2. Place Value to 1,000 -- 4 Week(s)

UNIT: 3. Two and Three Digit Addition with and without Regrouping -- 4 Week(s)

UNIT: 4. Two and Three Digit Subtraction with and without Regrouping -- 5 Week(s)

UNIT: 5. Money -- 5 Week(s)

UNIT: 6. Telling Time -- 3 Week(s)

UNIT: 7. Measurement -- 3 Week(s)

UNIT: 8. Data and Graphs -- 3 Week(s)

UNIT: 9. Geometry -- 3 Week(s)

Power Standards

- MaPS1 The student will be able to apply knowledge of number and operations in base ten.
- MaPS2 The student will be able to apply the use of operations and algebraic thinking.
- MaPS3 The student will be able to apply understanding of number and operations in fractions.
- MaPS4 The student will be able to analyze geometry.
- MaPS5 The student will be able to compare measurement and data.

Learning target

- MaPS1.LT1 I can use place value understanding to demonstrate number sense.
- MaPS1.LT2 I can use place value understanding and properties of operations to perform multi-digit arithmetic.
- MaPS2.LT1 I can multiply and divide within 100.
- MaPS2.LT2 I can represent and solve problems involving multiplication and division.
- MaPS2.LT3 I can solve problems involving the four operations and explain patterns in arithmetic.
- MaPS2.LT4 I can understand properties of multiplication and the relationship between multiplication and division.
- MaPS3.LT1 I can develop understanding of fractions as numbers.
- MaPS3.LT2 I can explain equivalent fractions.
- MaPS4.LT1 I can reason with shapes and their attributes.
- MaPS4.LT2 I can recognize perimeter as an attribute of plane figures and distinguish between linear and area.
- MaPS4.LT3 I can understand the concepts of area and relate area to multiplication and to addition.
- MaPS5.LT1 I can solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.
- MaPS5.LT2 I can represent and interpret data.

Course Details

UNIT: Unit 1 Numbers and Operations in Base Ten -- 4 Week(s)

UNIT: Unit 2 Multiplication and Division -- 8 Week(s)

UNIT: Unit 3 Fractions -- 6 Week(s)

UNIT: Unit 4 Geometry -- 6 Week(s)

UNIT: Unit 5 Data -- 5 Week(s)

Power Standards

- MaPS1 The student will be able to evaluate operations and algebraic thinking.
- MaPS2 The student will be able to describe number and operations in base ten.
- MaPS3 The student will be able to synthesize number and operations in fractions.
- MaPS4 The student will be able to evaluate measurement and data.
- MaPS5 The student will be able to apply and extend geometric principles.

Learning target

- MaPS1.LT1 I can use the four operations with whole numbers to solve problems.
- MaPS1.LT2 I can generate factors and multiples.
- MaPS1.LT3 I can create a number or shape pattern that follows a given rule.
- MaPS2.LT1 I can generalize place value understanding for multi-digit whole numbers.
- MaPS2.LT2 I can solve multi-digit addition and subtraction.
- MaPS2.LT3 I can use place value understanding and properties of operations to solve multi-digit multiplication and division.
- MaPS3.LT1 I can justify an understanding of equivalent fractions and ordering.
- MaPS3.LT2 I can build fractions from unit fractions by applying and extending previous understanding of operations on whole numbers.
- MaPS3.LT3 I can apply previous understandings of multiplication to multiply a fraction by whole numbers.
- MaPS3.LT4 I can understand decimal notation for fractions and compare decimal fractions.
- MaPS4.LT1 I can solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.
- MaPS4.LT2 I can create a line plot to represent data including fractions and interpret data when given a set of data.
- MaPS4.LT3 I can understand concepts of angles and measuring angles.
- MaPS5.LT1 I can draw and identify lines and angles.
- MaPS5.LT2 I can classify shapes by properties of their lines and angles.

Course Details

UNIT: 1. Basic Facts and Patterning -- 3 Week(s)

UNIT: 2. Applying Place Value Unit Planner -- 3 Week(s)

UNIT: 3. Computing Addition and Subtraction -- 3 Week(s)

UNIT: 4. Exploring Factors, Multiples, Products, and Quotients -- 8 Week(s)

UNIT: 5. Problem Solving with All Four Operations -- 1 Week(s)

UNIT: 6. Comparing Fractions and Decimals -- 3 Week(s)

UNIT: 7. Operating with Fractions -- 3 Week(s)

UNIT: 8. Measurement and Data -- 8 Week(s)

UNIT: 9. Exploring Properties of 2D Figures -- 2 Week(s)

2015-2016 Fourth Grade Math

Raymore-Peculiar
Math
Grade 4, Duration 1 Year, 1 Credit
Required Course

UNIT: 10. Exploring Angles and Measurement -- 3 Week(s)

Power Standards

- MaPS1 The student will be able to analyze the use of operations and algebraic thinking.
- MaPS2 The student will be able to evaluate number and operations in base ten.
- MaPS3 The student will be able to perform operations with fractions to solve real-world problems.
- MaPS4 The student will be able to synthesize measurement and data.
- MaPS5 The student will be able to graph points in the first quadrant of the coordinate plane using patterns and real-world situations.

Learning target

- MaPS1.LT1 I can use the order of operations to interpret numerical expressions.
- MaPS1.LT2 I can generate numerical expressions from word problems.
- MaPS2.LT1 I can use the place value system to solve problems.
- MaPS2.LT2 I can add and subtract decimals to hundredths.
- MaPS2.LT3 I can multiply and divide decimals
- MaPS3.LT1 I can add and subtract fractions with unlike denominators.
- MaPS3.LT2 I can multiply and divide fractions.
- MaPS4.LT1 I can convert metric units of measurement.
- MaPS4.LT2 I can convert customary units of measurement.
- MaPS4.LT3 I can understand concepts of volume and relate volume to multiplication and to addition.
- MaPS5.LT1 I can graph points on the coordinate plane to solve real-world and mathematical problems.
- MaPS5.LT2 I can analyze patterns and relationships.

Course Details

UNIT: 1. Order of Operations and Whole Numbers -- 6 Week(s)

UNIT: 2. Add and Subtract Decimals -- 4 Week(s)

UNIT: 3. Multiply and Divide Decimals -- 4 Week(s)

UNIT: 4. Perform Operations with Fractions -- 8 Week(s)

UNIT: 5. Measurement -- 4 Week(s)

UNIT: 6. Volume -- 4 Week(s)

UNIT: 7. Coordinate Plane -- 2 Week(s)

Power Standards

- MaPS1 The student will be able to apply understandings of the number system.
- MaPS2 The student will be able to apply knowledge of equations and expressions
- MaPS3 The student will be able to connect ratios and proportions to real-world situations.
- MaPS4 The student will be able to apply real-world and mathematical problems involving geometry.
- MaPS5 The student will be able to explain statistics and probability.

Learning target

- MaPS1.LT1 I can identify, compare, and order positive and negative integers and rational numbers.
- MaPS1.LT2 I can compute multi-digit rational numbers and find common factors and multiples.
- MaPS1.LT3 I can divide fractions by fractions.
- MaPS2.LT1 I can use order of operations to read, write, and evaluate expressions with variables.
- MaPS2.LT2 I can write and evaluate equations and inequalities.
- MaPS2.LT3 I can analyze relationships between independent and dependent variables.
- MaPS3.LT1 I can understand ratios and unit rates by multiplying and dividing quantities to evaluate unit rates.
- MaPS3.LT2 I can use ratio and rate reasoning to solve real-world and mathematical problems.
- MaPS4.LT1 I can compose and decompose irregular figures and calculate area and surface area.
- MaPS4.LT2 I can find the volume of a right rectangular prism with fractional edge lengths.
- MaPS4.LT3 I can draw polygons in the coordinate plane given coordinates for the vertices.
- MaPS5.LT1 I can understand statistical variability.
- MaPS5.LT2 I can summarize and describe distributions for a set of data.

Course Details

UNIT: Unit 1 Number System -- 9 Week(s)

UNIT: Unit 2 Expressions and Equations -- 9 Week(s)

UNIT: Unit 3 Ratios and Proportional Relationships -- 9 Week(s)

UNIT: Unit 4 Geometry -- 9 Week(s)

UNIT: Unit 5 Statistics -- 4 Week(s)

2015-2016 Math 7

Power Standards

1. The student will be able to solve problems involving rational numbers.
2. The student will be able to solve problems for an unknown variable.
3. The student will be able to solve problems involving proportions.
4. The student will be able to solve problems involving two-and-three dimensional figures.
5. The student will be able to solve problems involving statistics and probability.

Learning targets

- 1.1 I can apply all operations with integers.
- 1.2 I can apply all operations with decimals.
- 1.3 I can apply all operations with fractions.
- 2.1 I can generate equivalent expressions.
- 2.2 I can solve equations.
- 2.3 I can solve inequalities.
- 3.1 I can represent proportional relationships.
- 3.2 I can use proportional relationships to solve percent problems.
- 4.1 I can use angle relationships to solve algebraic equations for unknown angles.
- 4.2 I can use formulas to calculate surface area.
- 4.3 I can use formulas to calculate volume.
- 5.1 I can draw informal comparative inferences about two populations.
- 5.2 I can use a model to predict the probability of an event.

Course Details

UNIT: The Number System -- 8 Week(s)

UNIT: Expressions and Equations -- 8 Week(s)

UNIT: Ratio and Proportions -- 8 Week(s)

UNIT: 2D and 3D Geometry -- 6 Week(s)

UNIT: Statistics and Probability -- 4 Week(s)

2015-2016 Pre-Algebra

Power Standards

1. The student will be able to solve problems involving the four operations with rational numbers.
2. The student will be able to solve problems for an unknown variable.
3. The student will be able to solve problems involving proportions.
3. The student will be able to solve problems of two- and three-dimensional figures.
4. The student will be able to solve problems involving statistics and probability.

Learning targets

- 1.1 I can apply all operations with integers.
- 1.2 I can apply all operations with decimals.
- 1.3 I can apply all operations with fractions.
- 2.1 I can generate equivalent expressions.
- 2.2 I can solve equations.
- 2.3 I can solve inequalities.
- 3.1 I can represent proportional relationships.
- 3.2 I can use proportional relationships to solve percent problems.
- 4.1 I can solve problems involving angle measure.
- 4.2 I can solve problems involving surface area.
- 4.3 I can solve problems involving volume.
- 5.1 I can draw informal comparative inferences about two populations.
- 5.2 I can use a model to predict the probability of an event.

Course Details

UNIT: Rational and Irrational Numbers – 9 Week(s)

UNIT: Linear Relationships – 9 Week(s)

UNIT: Geometry – 9 Week(s)

UNIT: Introduction to Sampling Inference – 5 Week(s)

UNIT: Probability – 4 Week(s)

2015-2016 Math 8

Power Standards

1. The student will be able to approximate irrational numbers as rational numbers.
2. The student will be able to evaluate expressions.
3. The student will be able to evaluate equations.
4. The student will be able to evaluate functions.
5. The student will be able to apply various geometric principles.
6. The student will be able to investigate statistics and probability.

Learning targets

- 1.1 I can differentiate between rational and irrational numbers.
- 1.2 I can use the approximation of irrational numbers.
- 2.1 I can apply the properties of integer exponents.
- 2.2 I can solve problems involving square root.
- 2.3 I can express numbers as integer powers.
- 2.4 I can perform operations with numbers expressed in scientific notation.
- 3.1 I can compare proportional relationships.
- 3.2 I can explain slope using similar triangles and equations.
- 3.3 I can solve linear equations in one variable.
- 3.4 I can solve pairs of simultaneous linear equations.
- 4.1 I can compare properties of functions.
- 4.2 I can construct functions.
- 4.3 I can qualitatively describe the functional relationship between two quantities.
- 5.1 I can describe two-dimensional figures as congruent or similar using geometric terms.
- 5.2 I can describe the effects of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.
- 5.3 I can use informal arguments to support facts involving properties of triangles.
- 5.4 I can apply the Pythagorean Theorem to solve mathematical problems.
- 5.5 I can use formulas to solve problems involving volume.
- 6.1 I can explain patterns of association related to interpreting bivariate data.
- 6.2 I can explain linear associations in data.
- 6.3 I can use the equation of a linear model to solve problems involving bivariate measurement data.
- 6.4 I can interpret summarized data from tables using frequencies

Course Details

UNIT: Irrational Numbers – 5 Week(s)

UNIT: Expressions -- 5 Week(s)

UNIT: Equations -- 8 Week(s)

UNIT: Functions – 5 Week(s)

UNIT: Geometric Principles – 7 Week(s)

UNIT: Statistics and Probability -- 4 Week(s)

2015-2016 Algebra I

Power Standards

1. The student will be able to apply knowledge of their understanding of expressions, equations and inequalities.
2. The student will be able to express and describe algebraic functions graphically.
3. The student will be able to apply knowledge of their understanding of linear, exponential and quadratic relationships.
4. The student will be able to summarize and interpret data.

Learning targets

- 1.1 I can create and/or solve equations that describe numbers or relationships.
- 1.2 I can create and/or solve inequalities that describe numbers or relationships.
- 1.3 I can create and/or solve systems of equations.
- 1.4 I can create and/or solve systems of inequalities.
- 1.5 I can apply the properties of exponents (including radical exponents).
- 1.6 I can apply arithmetic operations on polynomials (add, subtract, multiply).
- 1.7 I can represent a polynomial as a product of factors.
- 2.1 I can represent and solve linear relationships graphically.
- 2.2 I can represent and solve exponential relationships graphically.
- 2.3 I can represent and solve quadratic relationships graphically.
- 2.4 I can analyze and interpret relationships between linear, exponential and quadratic graphs.
- 3.1. I can construct, compare and solve problems involving linear, exponential, quadratic and absolute value models.
- 3.2 I can interpret expressions for functions in terms of the situation they model.
- 4.1 I can apply regression techniques to describe approximate linear relationships between quantities.
- 4.2. I can calculate and apply measures of central tendency.

Course Details

UNIT: Simplifying Expressions and Solving Equations -- 20 Day(s)

UNIT: Inequalities -- 8 Day(s)

UNIT: Relations and Functions -- 19 Day(s)

UNIT: Linear Functions -- 24 Day(s)

UNIT: Systems of Linear Functions -- 11 Day(s)

UNIT: Absolute Value Functions and Linear Equations -- 15 Day(s)

UNIT: Properties of Exponents -- 19 Day(s)

UNIT: Factoring Polynomials -- 9 Day(s)

UNIT: Quadratic Functions -- 18 Day(s)

UNIT: Exponential Functions and Data Analysis -- 9 Day(s)

2015-2016 Geometry

Power Standards

1. The student will be able to model with mathematics.
2. The student will be able to solve problems involving geometric figures.
3. The student will be able to use precise measurements.

Learning targets

- 1.1 I can model 1D, 2D and 3D situations geometrically.
- 1.2 I can model geometric situations using algebraic equations and expressions.
- 1.3 I can reason logically.
- 1.4 I can analyze geometric situations in the coordinate plane.
- 2.1 I can apply properties of triangles.
- 2.2 I can apply properties of quadrilaterals.
- 2.3 I can apply properties of regular polygons.
- 2.4 I can apply properties of circles.
- 2.5 I can apply properties of parallel and perpendicular lines.
- 3.1 I can solve problems involving area of 2D and 3D figures.
- 3.2 I can solve problems involving volume of 3D figures.

Course Details

UNIT: Foundations for Geometry 4 Week(s)

UNIT: Parallel and Perpendicular Lines 4 Week(s)

UNIT: Geometric Reasoning 3 Week(s)

UNIT: Triangles 7 Week(s)

UNIT: Polygons and Quadrilaterals 7 Week(s)

UNIT: Area and Perimeter 3 Week(s)

UNIT: Surface Area 4 Week(s)

UNIT: Volume 3 Week(s)

UNIT: Transformational Geometry 3 Week(s)

2015-2016 Algebra II

Power Standards

1. The students will be able to apply properties of functions to solve problems.
2. The students will be able to analyze functions graphically.
3. The students will be able to model mathematical situations.

Learning targets

- 1.1 I can solve polynomial equations.
- 1.2 I can solve radical equations.
- 1.3 I can solve rational equations.
- 1.4 I can solve exponential and logarithmic equations.
- 1.5 I can apply trigonometric functions to solve problems. (I can be good at trigging.)
- 2.1 I can graph polynomial functions.
- 2.2 I can graph radical functions.
- 2.3 I can graph rational functions.
- 2.4 I can graph exponential and logarithmic functions.
- 2.5 I can graph systems of equations and inequalities.
- 3.1 I can model problems using systems of equations and inequalities.
- 3.2 I can model problems using polynomial functions.
- 3.3 I can model problems using radical functions.
- 3.4 I can model problems using rational functions.
- 3.5 I can model problems using exponential and logarithmic functions.
- 3.6 I can model problems using trigonometric functions.
- 3.7 I can find theoretical and experimental probability.

Course Details

- UNIT: Systems of Equation** 4 Week(s)
UNIT: Quadratic Functions 5 Week(s)
UNIT: Polynomial Functions 5 Week(s)
UNIT: Rational Functions 5 Week(s)
UNIT: Exponential and Logarithmic Functions 5 Week(s)
UNIT: Probability and Statistics 5 Week(s)
UNIT: Trigonometric Functions 4 Week(s)
UNIT: Radicals 3 Week(s)

2015-2016 Trigonometry

Power Standards

1. The student will be able to extend the domain of trigonometric functions using the unit circle.
2. The student will be able to model periodic phenomena with trigonometric functions.
3. The student will be able to prove and apply trigonometric identities.

Learning targets

- 1.1 I can understand and apply the relationships between radian and degree measure of an angle.
- 1.2 I can explain how the unit circle in the coordinate plane enables the extension of trigonometric functions to all real numbers, interpreted as radian measures of angles traversed counterclockwise around the unit circle.
- 1.3 I can use the unit circle to express the value for the six trig functions.
- 1.4 I can use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.
- 1.5 I can use Right triangle trig, law of sines, or law of cosines to solve application problems.
- 2.1 I can choose trigonometric functions to model periodic phenomena with specified amplitude, frequency, and midline.
- 2.2 I can understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
- 2.3 I can use inverse functions to solve trigonometric equations that arise in modeling contexts and evaluate the solutions using technology as needed.
- 3.1 I can prove and apply the Pythagorean identities.
- 3.2 I can apply the addition, subtraction, double, and half angle formulas for sine, cosine, and tangent and use them to solve problems.

Course Details

- UNIT: Graphs and Functions** 20 Day(s)
UNIT: Trigonometric Functions 30 Day(s)
UNIT: Analytic Trigonometry 30 Day(s)
UNIT: Applications of Trigonometric Functions 10 Day(s)

2015-2016 Dual Credit Statistics

Power Standards

1. The student will be able to analyze and interpret data.
2. The student will be able to make estimates about a population parameter based on assessment of sample data and interpret the results.
3. The student will be able to make inferences about a population based on assessment of sample data and interpret the results.

Learning targets

- 1.1: I can represent and analyze one variable data.
- 1.2 I can calculate and interpret probabilities for discrete random variables.
- 1.3 I can calculate and interpret probabilities for continuous random variables.
- 1.4 I can apply the central limit theorem and calculate and interpret the mean and standard deviation for a sampling distribution.
- 2.1: I can estimate a population parameter and interpret the results
- 2.2: I can estimate the difference between two population parameters and interpret the results.
- 2.3: I can determine the minimum sample size necessary to produce a predetermined confidence interval and margin of error.
- 3.1: I can conduct a hypothesis test about a population parameter and interpret the results
- 3.2: I can conduct a hypothesis test about the difference between two population parameters and interpret the results.

Course Details

- UNIT: Introduction/Descriptive Measures 13 Day(s)
UNIT: Probability of Discrete Random Variables 4 Week(s)
UNIT: Probability of Continuous Random Variables 3 Day(s)
UNIT: Confidence Intervals 3 Week(s)
UNIT: Hypothesis 23 Day(s)

2015-2016 Advanced Math Topics

Power Standards

1. The student will be able to apply social choice algorithms.
2. The student will be able to solve management science problems.
3. The student will be able to analyze numerical information.

Learning targets

- 1.1 I can solve problems involving election theory.
- 1.2 I can solve problems involving weighted voting.
- 1.3 I can apply various fair division algorithms to solve problems.
- 1.4 I can solve apportionment problems.
- 2.1 I can apply Euler's theorems and properties of connected graphs to solve problems.
- 2.2 I can use properties of Hamilton graphs to solve problems.
- 2.3 I can model situations with trees and directed graphs.
- 3.1 I can represent and analyze one-variable data.
- 3.2 I can use various methods to compute the probabilities of events.
- 3.3 I can apply properties of normal distributions.
- 3.4 I can solve problems related to finance (i.e. loans, investments, annuities).

Course Details

- UNIT: Election Theory** 4 Week(s)
UNIT: Fair Division 2 Week(s)
UNIT: Distributions 4 Week(s)
UNIT: Finance 28 Day(s)
UNIT: Descriptive Statistics 3 Week(s)
UNIT: Probability and Counting 18 Day(s)
UNIT: Weighted Voting Methods 2 Week(s)
UNIT: Graph Theory 7 Day(s)

2015-2016 Mathematics with Business Applications

Power Standards

1. The student will be able to calculate gross income and net income.
2. The student will be able to keeping accurate records for a checking or savings account.
3. The student will be able to understand the components of purchasing on credit.
4. The student will be able to computing the cost of buying and operating a vehicle.
5. The student will be able to determine the costs associated with buying and owning a home.
6. The student will be able to calculate the profit or loss of an investmest.
7. The student will be able to understanding costs associated with staffing a business.
8. The student will be able to analyze manufacturing processes to maximize production.
9. The student will be able to computing the final price using various discount methods.
10. The student will be able to determine a profitable selling price.
11. The student will be able to analyze inventory management practices to maximize efficiency.
12. The student will be able to understand the components of accounting and financial reporting.

Learning targets

- 1.1 I can calculate straight-time, overtime, and total pay.
- 1.2 I can calculate the straight commission and gross pay.
- 1.3 I can compute the graduated commission.
- 1.4 I can determine the salary per pay period.
- 1.5 I can calculate tax withheld.
- 1.6 I can determine amount deducted for health insurance.
- 1.7 I can determine amount of federal income withheld.
- 1.8 I can determine amount of social security and medicare tax withheld.
- 1.9 I can determine graduated state income tax.
- 1.10 I can compute the average monthly expenditures.
- 1.11 I can use past expenditures to prepare a budget.
- 2.1 I can calculate balance in checkbook register.
- 2.2 I can compute online bank charges.
- 2.3 I can reconcile the bank statement and checkbook register.
- 2.4 I can write checks and deposit slips.
- 2.5 I can calculate and compound interest.
- 2.6 I can compute the future value of an ordinary annuity.
- 2.7 I can compute the new balance on a savings account.
- 2.8 I can find interest for daily compounding.
- 2.9 I can use tables to compute compound interest.
- 3.1 I can calculate the new balance on a charge account.
- 3.2 I can find the finance charge using the average daily balance method.
- 3.3 I can find the finance charge using the average daily balance method including new purchases.
- 3.4 I can find the finance charge using the unpaid balance method.
- 3.5 I can calculate the amount financed on an installment loan.
- 3.6 I can calculate the final payment when paying off a simple interest installment loan.
- 3.7 Calculate the maturity value and interest rate of a single payment loan.
- 3.8 Determine the payment to interest, payment to principal, and new balance.
- 3.9 Find out the monthly payment, total amount repaid, and finance charge on an installment loan.
- 3.10 Use a table to find the annual percentage rate of a loan.
- 4.1 I can calculate the sales tax and total purchase price.
- 4.2 I can calculate the unit price and determine the better buy.
- 4.3 I can compute the amount of the markdown or sale price.
- 4.4 I can calculate the cost per mile of operating and maintaining a vehicle.
- 4.5 I can calculate the cost per mile of renting a vehicle.
- 4.6 I can calculate the dealer cost of a new vehicle.
- 4.7 I can determine the average retail price of a used vehicle.
- 4.8 I can determine the sticker price of a new vehicle.
- 4.9 I can use tables to calculate the annual premium for vehicle insurance.
- 5.1 I can calculate the mortgage loan amount.
- 5.2 I can calculate the total closing costs.
- 5.3 I can calculate the total housing cost and compare with suggested guidelines.
- 5.4 I can compute the allocation of monthly payment toward principal, interest, and the new principal.
- 5.5 I can determine the amount of insurance coverage.

- 5.6 I can determine the monthly payment, the total amount paid, and total interest charged.
- 6.1 I can calculate the annual interest and annual yield of a bond investment.
- 6.2 I can calculate the annual yield and annual dividend of a stock investment.
- 6.3 I can calculate the effective annual yield on a certificate of deposit.
- 6.4 I can calculate the interest on certificates of deposit.
- 6.5 I can calculate the profit or loss from a stock sale.
- 6.6 I can determine the total cost of a stock investment.
- 7.1 I can calculate new salary after merit increase and cost of living adjustment.
- 7.2 I can calculate the cost of recruiting new employees.
- 7.3 I can calculate the employer cost for worker's compensation and unemployment insurance.
- 7.4 I can calculate the total business travel expenses.
- 7.5 I can determine amount of disability benefit.
- 7.6 I can determine the rate of employee benefits based on annual gross pay.
- 7.7 I can determine the total employee training costs.
- 8.1 I can calculate the percent of defective goods and determine if the process is in or out of control.
- 8.2 I can calculate the prime cost of manufacturing an item.
- 8.3 I can determine the break-even point in the number of manufactured units.
- 8.4 I can determine the dimensions of packaging cartons.
- 8.5 I can use Time study results to compute the number of units can be produced.
- 8.6 I can use time study results to compute the percent of time spent on each task.
- 9.1 I can calculate the cash price when the discount is based on end-of-month dating.
- 9.2 I can calculate the cash price when the discount is based on ordinary dating.
- 9.3 I can compute the trade discount and the net price.
- 9.4 I can compute the net price using the complement method.
- 9.5 I can determine the net price after a chain of discounts.
- 9.6 I can determine the net price using the complement method.
- 9.7 I can determine the trade discount rate.
- 10.1 I can calculate markup as a percent of the selling price.
- 10.2 I can calculate the markdown amount and as a percent of the regular selling price.
- 10.3 I can calculate the net profit as a percent of the selling price.
- 10.4 I can calculate the selling price based on cost and markup rate.
- 10.5 I can compute the markup amount.
- 10.6 I can determine the markup rate based on cost.
- 10.7 I can determine the net profit amount.
- 10.8 I can determine the selling price based on cost.
- 11.1 I can calculate the annual cost of carrying an inventory.
- 11.2 I can calculate the total inventory.
- 11.3 I can compute the total door-to-door shipping costs.
- 11.4 I can compute the total shipping costs by truck.
- 11e. I can compute the total storage space.
- 11f. I can use the average cost method to determine the inventory value.
- 12a. I can calculate a department's share of the total business expense.
- 12b. I can calculate the percent that a given business expense is of the total expenses.
- 12c. I can complete a payroll register.
- 12d. I can compute the book value of an item.
- 12e. I can use the straight line method to compute the annual depreciation of an item.

Course Details

- UNIT: Gross Income** 7 Day(s)
- UNIT: Net Income** 7 Day(s)
- UNIT: Recordkeeping** 5 Day(s)
- UNIT: Checking Accounts** 6 Day(s)
- UNIT: Savings Accounts** 6 Day(s)
- UNIT: Cash Purchases** 6 Day(s)
- UNIT: Charge Accounts and Credit Cards** 6 Day(s)
- UNIT: Loans** 8 Day(s)
- UNIT: Manufacturing** 6 Day(s)
- UNIT: Discounting** 5 Day(s)
- UNIT: Selling Prices** 6 Day(s)
- UNIT: Inventory** 6 Day(s)
- UNIT: Accounting** 6 Day(s)

2015-2016 Dual Credit College Algebra

Power Standards

1. The students will be able to apply properties of functions to solve problems.
2. The students will be able to analyze functions and relations graphically.
3. The students will be able to model mathematical situations.

Learning targets

- 1.1: I can solve linear equations and inequalities.
- 1.2: I can solve quadratic equations and inequalities.
- 1.3: I can solve exponential and logarithmic equations.
- 1.4: I can solve systems of linear equations and inequalities.
- 2.1: I can graph and interpret linear functions and linear inequalities.
- 2.2: I can graph and interpret quadratic functions.
- 2.3: I can graph and interpret polynomial functions
- 2.4: I can graph and interpret rational functions.
- 2.5: I can graph and interpret radical functions.
- 3.1: I can model problems using quadratic functions.
- 3.2: I can model problems using rational functions.
- 3.3: I can model problems using exponential and logarithmic functions.
- 3.4: I can model problems using systems of linear equations and inequalities.

Course Details

UNIT: Equations and Inequalities 3 Week(s)

UNIT: Linear and Quadratic Equations 3 Week(s)

UNIT: Polynomial and Rational Functions 13 Day(s)

UNIT: Exponential and Logarithmic Functions 13 Day(s)

UNIT: Matrices 3 Week(s)

Power Standards

1. The student will demonstrate an understanding of the properties of limits and their applications graphically, numerically and analytically.
2. The student will demonstrate an understanding of the rules of differentiation and their applications graphically, numerically and analytically.
3. The student will demonstrate an understanding of the techniques of integration and their applications graphically, numerically and analytically.
4. The student will demonstrate an understanding of the convergence and divergence of an infinite series by applying convergence tests, and to represent non-polynomial functions as an infinite series.

Learning target

- 1.1 I can state and explain the definition of a limit; explain the conditions for the existence of a limit, give a variety of examples including finding limits from a given graph and justify using properties/theorems of limits (Formal and Informal)
- 1.2 I can use trigonometric identities to evaluate limits with trigonometric functions and derive the limits of $\sin(x)/x$ and $(1 - \cos(x))/x$ as $x \rightarrow 0$.
- 1.3 I can explain the meaning of the continuity of a function at a point, and analyze and describe the discontinuities of a function on an interval.
- 1.4 I can explain how a limit is used to define a tangent line to a function at a given point, and write the equations of the tangent and normal lines.
- 1.5 I can use a limit to define the derivative of a function, and use the definition of the derivative to find the derivatives of given functions (both analytically and graphically).
- 2.1 I can compare and contrast average rate of change on an interval with instantaneous rate of change at a point, and explain the connection to the slope of a tangent line.
- 2.2 I can explain how the slopes of tangent lines are used to determine where a function is increasing or decreasing.
- 2.3 I can evaluate higher order derivatives, explain the connection between a function's graph and the graph of its derivatives, and explain their connection to position, velocity, and acceleration.
- 2.4 I can calculate the derivatives of a variety of composite functions using the chain rule.
- 2.5 I can use implicit differentiation to find the derivatives of a variety of implicitly defined functions, including logarithmic differentiation.
- 2.6 I can use differentiation to solve related rates problems in a variety of pure and applied contexts (e.g. ladder, cone) and explain how implicit differentiation is applied in determining the solution.
- 2.7 I can explain the relationship between the derivative of a function and the derivative of the inverse function, including deriving the derivatives of the inverse sine, cosine and tangent functions.
- 2.8 I can explain how to manipulate limits of indeterminate form $(0/0, 1^{+\infty}, \infty-\infty, \infty/\infty, 0^0, 0^{\infty})$ in order to determine the value of the limit by applying L'Hospital's Rule
- 2.9 I can use the first derivative of a function to determine where the function is increasing/decreasing and where the function might have relative extrema.
- 2.10 I can explain how to use the second derivative of a function to determine concavity and possible inflection points.
- 2.11 I can apply Rolle's Theorem and the Mean Value Theorem for derivatives.
- 2.12 I can solve by using differentiation to solve optimization problems (max/min) in a variety of pure and applied contexts.
- 3.1 I can find an integral (definite and indefinite) using substitution of variables, give examples with definite and indefinite integrals-- this is connected to the chain rule.
- 3.2 I can apply the Fundamental Theorem of Calculus (part 2)--
- 3.3 I can explain how to find the solution set of a differential equation graphically using slope fields (i.e. direction fields).
- 3.4 I can integrate functions by integration by parts.
- 3.5 I can integrate functions by the method of trigonometric substitution.
- 3.6 I can integrate functions by the method of partial fractions.
- 3.7 I can use definite integrals to determine the area of a region in the plane.
- 3.8 I can apply definite integrals to determine the volume of a variety of solids including solids of revolution with known cross sections.
- 3.9 I can apply definite integrals to determine the surface area of a variety of solids.
- 3.10 I can apply definite integrals to determine the arc length of a curve.
- 3.11 I can apply definite integrals to determine the center of mass of a region in the coordinate plane.
- 3.12 I can apply the Mean Value Theorem for Integrals to compute the average value of a function.
- 4.1 I can determine whether an infinite sequence converges or diverges
- 4.2 I can determine whether an infinite series converges or diverges.
- 4.3 I can find or approximate the infinite sum of certain convergent series.
- 4.4 I can find the Taylor or Maclaurin polynomial approximation of elementary functions.

2015-2016 Calculus

Raymore-Peculiar
Math
Grades 11 - 12, Duration 1 Year, 1 Credit
Elective Course

4.5 I can determine the values of x for which a power series converges.
4.6 I can represent functions by power series.

Course Details

UNIT: Integration of Functions and Applications -- 9 Week(s)

UNIT: Limits and Continuity -- 9 Week(s)

UNIT: Sequence and Series -- 9 Week(s)

UNIT: Derivatives of Functions -- 9 Week(s)