



**FLORIDA**  
**PASS**  
**PROGRAM**

# Course CATALOG



course descriptions,  
including standards  
and benchmarks



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# FLORIDA PASS COURSE CATALOG

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2017-2018

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Course Descriptions, Scope and  
Sequence of Skills, and Forms for  
the Florida PASS Program

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*\*Indicates not-for-credit course*

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\*Indicates not-for-credit course

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# What is PASS?

PASS (Portable Assisted Study Sequence) is a nationally recognized program that offers migrant secondary students the opportunity to earn credits and enhance academic skills.

PASS originated in California in 1978 as part of the Secondary School Migrant Dropout Prevention Program. PASS allows students to move from one school district to another without losing credits. Students earn credits by completing self-directed, portable courses.

Funding for the Florida PASS program is provided by the Florida Department of Education with federal Title 1 Part C funds so every PASS course is provided free of charge to Florida districts and students.

PASS courses are aligned with courses in the regular secondary school curriculum including those courses that currently have EOC exams. A student can use a PASS course for credit recovery, credit accrual or skill enhancement.

Each course is divided into five study units. Textbooks can be written in by the student, and some textbooks are available online. Each unit includes the necessary materials such as calculators for Geometry or novels for English. At the end of the unit, the student takes a pre-test and a unit test. The grades from the five unit tests are averaged and the final score is reported to the school district for credit. If a student completes only Part A or Part B of a course, he/she is awarded one semester (1/2) credit. If he/she completes both Part A and Part B, the full year of credit is awarded.



## High School PASS Courses: Online Testing Availability

<b>PASS Course Title</b>	<b>State Course Title</b>	<b>State Course Code</b>	<b>Online Test Available</b>
<b>Algebra 1A-B</b>	Algebra 1	1200310	No
<b>Algebra 2A-B</b>	Algebra 2	1200330	Yes
<b>Biology A-B</b>	Biology 1	2000310	No
<b>Career Connections</b>	Career Research & Decision Making	1700380	Yes
<b>Creative Writing</b>	Creative Writing 1	1009320	Yes
<b>Economics</b>	Economics	2102310	Yes
<b>Economics w/ Financial Literacy</b>	Economics w/ Financial Literacy	2102335	Yes
<b>English 1A-B</b>	English 1	1001310	Yes
<b>English 2A-B</b>	English 2	1001340	Yes
<b>English 3A-B</b>	English 3	1001370	Yes
<b>English 4A-B</b>	English 4	1001400	Yes
<b>Environmental Science A-B</b>	Environmental Science	2001340	Yes
<b>Geometry A-B</b>	Geometry	1206310	No
<b>Integrated Math Concepts*</b>			No
<b>Learning English Through Literature*</b>			No
<b>Personal Finance*</b>			No
<b>Study Skills</b>	Critical Thinking & Study Skills	1700370	Yes
<b>U.S. Government</b>	U.S. Government	2106310	Yes
<b>U.S. History A-B</b>	U.S. History	2100310	Yes
<b>World Geography A-B</b>	World Cultural Geography	2103300	Yes
<b>World History A-B</b>	World History	2109310	Yes
<b>Your Health</b>	Health 1/Life Management Skills	0800300	Yes

*\*Indicates not-for-credit course*

## M/J Language Arts 6A

Course No. 1001010

### Scope of Course

Language Arts 6A develops and strengthens reading, writing, listening, speaking, viewing, research, and producing skills through the study of myths and legends, fables and fairy tales, poetry, novels, and drama. Basic language and grammar skills are infused throughout the course.

### Sequence of Skills

#### UNIT 1 – Where is Home?

1. Read and analyze *Maniac Magee* by Jerry Spinelli
2. Increase vocabulary; use of context clues
3. Examine aspects of a legend – real and imaginary
4. Identify nouns, verbs, pronouns
5. Listening exercises
6. Quick Writes – read to teacher/mentor
7. Graphic organizers as preparation for writing, proofreading using CUPS
8. Poetry to go with story
9. Introduction of prefixes, base word, and suffix
10. Visualization activities
11. Figures of speech: simile, metaphor, personification, hyperbole, onomatopoeia
12. Character journal; character traits
13. Cause and effect paragraphs

#### UNIT 2 – Coming Together

1. Analyze *Maniac Magee*
2. Increase vocabulary; read; use of context clues; dialect
3. Examine aspects of a legend – real and imaginary
4. Parts of a sentence: subject, verb; parts of speech: conjunctions
5. Listening exercises
6. Figurative language
7. Poetry to go with story
8. Quick Writes – read to teacher/mentor
9. Homonyms
10. Writing: graphic organizers, sequence using transition words, proofreading using CUPS
11. Sentence combining; correcting fragments

#### UNIT 3 – Exploring Reading and Writing

1. Journal entries on independent reading: summarize, opinions, predictions
2. Narrative text characteristics
3. Writing narratives
4. Informational text characteristics
5. Writing to inform
6. Research on the Internet: note cards, outline, bibliography, revising proofreading
7. PowerPoint presentation

8. Descriptive text characteristics
9. Descriptive writing
10. Persuasive text characteristics
11. Persuasive writing
12. Capitalization rules and practice
13. Use of commas, semicolons, quotation marks, apostrophes – practice
14. Test taking tips and practice (SURE; CSPOT, 5W's and the H)

#### UNIT 4 – An Uprooting

1. Read and analyze *Esperanza Rising* by Pam Muñoz Ryan
2. Background information on Mexico in the 1930s and the Dust Bowl
3. Exploration of migrant problems
4. Increase vocabulary: use of context clues
5. Writer's craft: exposition, flashback, foreshadowing, figurative language, symbolism, theme
6. Grammar review: verbs, nouns (common and proper)
7. Proofreading practice: grammatical errors, punctuation
8. Visualization activities
9. People who made a difference: Sandra Cisneros, Ruben Salazar, Macario Garcia
10. Character traits
11. Writing: graphic organizers: proofreading using CUPS

#### UNIT 5 – Heroes and Villains – Real and Imaginary

1. Read and analyze *Esperanza Rising* by Pam Muñoz Ryan
2. Racism and prejudice
3. Accomplishments of César Chávez
4. Increase vocabulary; use of context clues
5. Writer's craft: exposition, flashback, foreshadowing, figurative language, symbolism, theme
6. Sentence combining
7. Homonyms
8. Punctuation practice
9. Creative writing: graphic organizer, proofreading using CUPS
10. Comparison of the fictional Esperanza with the real Esperanza
11. Myths: Arachne; Daedalus and Icarus; King Midas of Phrygia; The Chariot of the Sun
12. Unusual creatures in mythology

## M/J Language Arts 7/8-A

Course No. 1001040

### Scope of Course

Language Arts – English 7A develops and strengthens reading, writing, listening, speaking, viewing, and presenting skills, through the study of myths and legends, fables and fairy tales, poetry and life lessons, drama, and writing attitude and composition. The course is geared toward the intermediate English Language learner, who has basic English skills.

### Sequence of Skills

#### UNIT 1 – Myths and Legends

1. Review of alphabet, alphabetical order
2. Resources: dictionary, thesaurus
3. Reading myths from around the world
4. Writing a myth
5. Literary elements: theme, characters
6. Parts of speech: noun, pronoun, adjective
7. Grammar: plural and possessive nouns
8. Parts of a story
9. Writing process: prewriting, drafting, proofreading, proofreader's marks, publishing
10. Prewriting: brainstorming
11. Reading legends from around the world
12. Writing a legend
13. Spelling rules

#### UNIT 2 – Fables and Fairy Tales

1. Reading fables from around the world
2. Literary elements: moral
3. Reading strategies
4. Parts of speech: verbs, adverbs, prepositions, prefix, suffix, root words
5. Cause and effect
6. Grammar: verb tense
7. Capitalization
8. Punctuation: commas, quotation marks
9. Reading fairy tales
10. Compare two fairy tales
11. Spelling rules

#### UNIT 3 – Poetry and Life Lessons

1. Reading poems for understanding, enjoyment, and personal response
2. Literary elements of poetry: rhyme, rhythm, meter, tone, mood, repetition, figurative language
3. Explore multiple formats for poetry: haiku, clerihew, free verse, limerick, sonnet
4. Poetic devices
5. Grammar: synonyms, antonyms, homonyms, contractions

6. Punctuation: apostrophe
7. Life of William Shakespeare
8. Life lessons: alcohol and drugs
9. Spelling rules

**UNIT 4 – Drama**

1. Reading a play for understanding, enjoyment, and personal response
2. Aristotle's 6 elements of drama: characters, plot, theme, music/rhythm, spectacle, dialogue
3. Prediction and inference
4. Genre and sub-genre
5. Punctuation: quotation marks
6. Literary devices: soliloquy
7. Perform a scene from a play for an audience
8. Reading strategies
9. Stage directions
10. Audience
11. Write a book report
12. Spelling rules

**UNIT 5 – Writing Attitude and Composition**

1. Write an essay
2. Write a short story
3. Learn to paragraph in essays
4. Learn to paragraph in stories
5. Components of a paragraph
6. Components of sentences
7. Types of sentences: declarative, exclamatory, interrogative, and imperative
8. Types of sentence errors: fragments and run-ons
9. Punctuation: period, question mark, exclamation point
10. Grammar: subject-verb agreement, conjunctions
11. Writing process: pre-writing, drafting, proofreading, proofreader's marks, publishing
12. Spelling rules

## M/J Language Arts 7/8-B Course No. 1001040

### Scope of Course

English Language Arts 7/8 – B develops and strengthens reading, writing, listening, speaking, viewing, and presenting skills, through the study of functional texts, newspaper and informational texts, biography and autobiography, a novel (*A Wrinkle in Time* by Madeleine L'Engle, included in course materials provided) and persuasive and research text. This course is geared toward the intermediate English language learner, who has basic English skills. Since this course serves both 7th and 8th grade levels, students should only take the course once.

### Sequence of Skills

#### UNIT 1 – Functional Texts

1. Reading functional text: Following/giving directions, recipes, how-to instructions, ordering from a menu
2. Writing functional text: Directions, how-to instructions, recipes
3. Create PowerPoint and give presentation on how-to complete a task
4. Maintaining order of events even if the text is not written in order
5. Listening: Follow directions given orally, note-taking

#### UNIT 2 – Biography and Autobiography

1. Reading biography of Dr. Martin Luther King, Jr.
2. Visual Aides
3. Writing a Biography: Research, interviewing
4. Point of view
5. Reading Autobiography of Helen Keller
6. Literary elements: Voice
7. Spelling rules

#### UNIT 3 – The Novel: *A Wrinkle in Time*

1. Read a fiction novel (*A Wrinkle in Time*)
2. Reading comprehension questions
3. Literary elements: Point of view, flashback, foreshadowing, suspense, imagery
4. Predictions
5. Analogies
6. Character traits
7. Elements of story: plot, conflict, theme
8. Write an essay based on text

#### UNIT 4 – Persuasive Texts

1. Elements of Argument
2. Gathering Facts: Note taking skills, graphic organizers
3. Propaganda
4. Advertising
5. Literary Elements: word choice

6. Writing Process: prewriting, drafting, editing, publishing/presenting
7. Fact vs. opinion
8. Graphics: Reading and understanding visual cues, charts, and graphs
9. Business Article
10. Political cartoons
11. Sports coverage
12. letters to the Editor
13. Graphic organizers (5W + H Questions)

**UNIT 5 – Research**

1. Research skills
2. Resources
3. Valid sources
4. Note taking
5. Transitions and compound sentences
6. Format
7. Citing Sources: Within text, Works Cited page
8. Paraphrasing/Summarizing
9. Plagiarism
10. Writing process: Prewriting, drafting, editing, publishing/presenting
11. Write a research paper
12. Rubric

## M/J Math 6A

Course No. 1205010

### Scope of Course

This course is divided into two semesters of study (A & B) comprised of five units each. The first-semester (A) is a study of whole numbers and integers; rational numbers; statistics; probability and measurement; and geometric figures.

### Sequence of Skills

#### UNIT 1 – Whole numbers and Integers

1. Working with Place Value
  - Learn to read and write whole numbers to the trillions place
2. Integers and Absolute Value
  - Understand what the set of integers is
  - Place integers on the number line
  - Find the absolute value of an integer
3. Addition and Subtraction with Integers
  - Represent integer addition and subtraction on a number line and with “integer chips” Algebraically add and subtract positive and negative integers
4. Multiplication with Integers
  - Represent integer multiplication with integer chips
  - Algebraically multiply positive and negative integers
5. Dividing Integers
  - Understand the concept of division
  - Algebraically perform division of positive and negative integers
6. Exponents
  - Understand the concept of exponents as repeated multiplication
  - Evaluate integers with exponents of powers one, two, and three
7. Order of Operations
  - Understand the importance of defining a particular order of math operations
  - Use the correct order of operations in arithmetic expressions
  - Begin to understand fractions as division
8. Properties of Addition and Multiplication
  - Define and apply the commutative and associative properties of addition and multiplication
  - Define and apply the distributive property of multiplication over addition
9. Special Properties
  - Define and apply the inverse properties
  - Define and apply the properties of zero
10. Prime Factorization
  - Understand that any whole number can be written as a product of its prime factors



- Express a given whole number as a product of its prime factors, using exponents
11. The Least Common Multiple (LCM)
    - Find the least common multiple of two numbers
  12. The Greatest Common Factor (GCF)
    - Find the greatest common factor of two numbers
  13. Estimation and Mental Math
    - Understand rounding to a place value
    - Estimate multiplying large numbers by rounding to the tens place and hundreds place
  14. Review and Problem Solving
    - Solve applications involving algebraic properties and different whole number operations

## UNIT 2 – Rational Numbers

1. Rational Numbers: Fractions
  - Understand fractions as rational numbers, and the meaning behind fraction notation
  - Express relationships between fractions using equality and inequality symbols
  - Use number sense to order fractions
2. Equivalent Fractions
  - Understand the concept of equivalent fractions
  - Be able to recognize equivalent fractions
  - Express fractions in lowest terms
3. Addition and Subtraction with Fractions
  - Understand the concept of adding and subtracting fractions
  - Be able to add and subtract fractions with like and unlike denominators
4. Multiplication and Division with Fractions
  - Understand the concept of multiplying and dividing fractions
  - Understand division as the inverse of multiplication
5. Mixed Numbers
  - Understand the relationship between fractions and mixed numbers
  - Be able to convert between mixed numbers and improper fractions
  - Order mixed numbers and fractions
6. Adding and Subtracting Mixed Numbers
  - Understand the concept of addition and subtraction of mixed numbers
  - Further understand whether to use a mixed number or improper fraction in any given situation
7. Multiplying and Dividing Mixed Numbers
  - Understand the concept of multiplication and division of mixed numbers
  - Be able to multiply and divide mixed numbers
  - Further understand when to express in mixed number or as complex fraction form
8. Decimals
  - Understand conceptually what decimal notation means

- Be able to convert from decimals to mixed numbers and fractions
  - Order decimals, fractions, and mixed numbers
9. Converting Fractions to Decimals
    - Understand how to represent fractions as terminating or repeating decimals
    - Understand how to round decimals to given place values
  10. Adding and Subtracting Decimals
    - Understand decimal addition and subtraction
    - Perform decimal addition and subtraction
  11. Multiplying and Dividing Decimals
    - Understand decimal multiplication and division
    - Perform decimal multiplication and division
  12. Scientific Notation
    - Understand the concept of scientific notation
    - Convert large whole numbers into scientific notation
  13. Percentage
    - Convert between decimals and percent
    - Solve problems involving percent
  14. Review and Problem Solving
    - Solve applications involving rational numbers and scientific notation

### UNIT 3 – Statistics

1. Collecting Data
  - Collect and organize data in a proper manner
2. Pie Graphs
  - Interpret and read pie graphs
  - Understand when pie graphs are used
3. Organizing Information: Frequency Tables
  - Use tally to count frequency of data
  - Organize data using a frequency table
  - Interpret frequency tables
  - Understand the concept of line plots
4. Stem-and-Leaf plots
  - Create Stem-and-Leaf plots
  - Interpret Stem-and-Leaf plots
5. Bar Graphs
  - Use data to make bar graphs
  - Interpret bar graphs
6. Pictographs
  - Use data to make a pictograph
  - Interpret pictographs

7. Histograms
  - Use data to make a histogram
  - Interpret histograms
8. Range, Mode, Mean, and Median
  - Analyze data sets by finding the mean, median, mode, and range
9. Box-and-Whisker Plots
  - Construct box-and-whisker plots
  - Interpret box-and-whisker plots
10. Graphing Coordinates
  - Plot points on a set of axes
  - Identify coordinates of a point on the axes
11. Line Graphs
  - Connect plotting points to data measurements
  - Construct and interpret line graphs
12. Scatter Plots
  - Plot points for scatter plots
  - Determine the best fit line for a scatter plot
13. Using the Appropriate Data Display
  - Understand when to use the correct graph
  - Develop an understanding of how statistics can be misleading
14. Review and Problem Solving
  - Solve applications involving different data displays
  - Solve word problems with mean median and mode

#### UNIT 4 – Probability and Measurement

1. Sets and Sample Spaces
  - Understand the concept of Sets and Sample Spaces
  - Use the Venn diagram model for sets
2. Theoretical Probability: Simple Experiments
  - Find the theoretical probability of simple experiments
  - Begin to develop an understanding of theoretical versus experimental probability
3. Tree Diagrams
  - Use tree diagrams to find the possible outcomes of an experiment
  - Use tree diagrams to find the theoretical probability of an outcome
4. Compound Probabilities
  - Understand how to find the probability of two or more independent events
5. This then That: Dependent Events
  - Find the probability of dependent events
6. A Deck of Cards and Dice
  - Understand the suits and numbers in a standard deck of cards

- Understand basic probability in a standard deck of cards
- Understand the probability of the sum of two dice
- 7. Theoretical vs. Experimental Probability
  - Understand the difference between theoretical and experimental probability
  - Create probability experiments and compare data to theoretical probability
- 8. Standard Measurement
  - Identify customary units of length, capacity, and weight
  - Develop personal references for each unit
  - Convert between customary units
- 9. Metric Units
  - Convert between different metric units
  - Understand metric units and what they represent
- 10. Tools of Measurement
  - Understand when and how to use appropriate tools of measurement
- 11. Units of Time
  - Understand the different units for time
  - Convert between seconds, minutes, hours, days, weeks, and years
  - Read a clock
- 12. Introduction to Angles
  - Understand what an angle is
  - Measure angles with a protractor
- 13. Operations with Measurements
  - Review and Problem Solving
  - Solve word problems involving probability
  - Solve word problems involving measurement
- 14. Review and Problem Solving
  - Solve word problems involving probability
  - Solve word problems involving measurement

## UNIT 5 – Geometric Figures

1. Classifying Angles
  - Understand the concept of angles and the different classifications of angles
  - Identify the type of angle based on its measurement
  - Understand and identify parallel and perpendicular lines
2. Properties of Parallel Lines
  - Understand properties of parallel lines being cut by a transversal line
3. Quadrilaterals
  - Understand what a quadrilateral is
  - Distinguish between different types of quadrilaterals
4. Area and Perimeter of Quadrilaterals

- Understand the concepts of area and perimeter
  - Begin to develop the concept of an unknown variable
  - Derive formulas for, and be able to compute area and perimeter of a square, rectangle, and parallelogram
5. Triangles
    - Understand what a triangle is
    - Distinguish between different types of triangles
  6. Area of Triangles
    - Understand how to find the perimeter of different types of triangles
    - Understand how to find the area of different types of triangles
  7. Regular and Irregular Polygons
    - Distinguish between different types of polygons
    - Understand the concept of a regular polygon
  8. Area and Perimeter of Polygons
    - Find the perimeter of regular and irregular polygons
    - Find the area of regular and irregular polygons
  9. Congruent and Similar Polygons
    - Determine which polygons are congruent
    - Determine which polygons are similar
  10. Introduction to Circles
    - Understand the concepts of radius and diameter
    - Determine the circumference of a circle
  11. Circumference and Area
    - Determine the area of a circle based on the diameter and radius
    - Determine the circumference of a circle based on the diameter and radius
  12. 3-Dimensional Shapes
    - Classify different 3-dimensional solids
    - Understand the parts that make a 3-dimensional solid
  13. Volume and Surface Area
    - Determine the Volume of various solids
    - Determine the Surface Area of various solids
  14. Review and Problem Solving
    - Solve word problems involving area, circumference, and perimeter
    - Solve word problems involving volume and surface area
    - Develop problem solving skills by drawing pictures

## M/J Math 6B

Course No. 1205010

### Scope of Course

Math 6B is the second and final semester of Math 6. This semester is a study of algebra and transformational geometry, as well as a review of previous concepts, and an application of them in real-world careers. Algebra is studied through equation solving, rates, ratios and proportions. Transformational geometry is presented through rigid motions and dilations. Math 6B also presents a spiraled curriculum, reviewing and emphasizing previously taught concepts in a fresh, concise way. Concepts are also applied in a real-world setting through an investigation of the presence of math skills within a broad spectrum of careers.

### Sequence of Skills

#### UNIT 1 – An Intro to Algebra

1. Variables and Substitution
  - Understand that letters can be used to represent numbers
  - Simplify a given value to simplify an algebraic expression
2. More Substitution
  - Substitute for two or more variables in an expression
  - Substitute for multiply variables to verify the equality of two expressions
3. Polynomials
  - Recognize monomials and polynomials
  - Write polynomials in descending order
4. Translating Words to Algebraic Expressions
  - Translate word phrases into algebraic expressions
  - Solve word problems by translating sentences into algebraic expressions
5. Adding and Subtracting Polynomials
  - Simplify polynomials by combining like terms
  - Add and subtract polynomials
6. Properties of Equality
  - Determine whether quantities are equal
  - Begin solving equations using rules of equality
7. Solving Equations: Part One
  - Given an equation, solve for a variable
  - Check answer using substitution
8. Solving Equations: Part Two
  - Perform more than one operation to solve for a variable
  - Check answer using substitution
9. Translating Sentences into Algebraic Equations
  - Translate a sentence into an algebraic equation, solve for an unknown, and check using substitution
10. Solving Inequalities: Part One
  - Determine what an inequality is

- Solve inequalities using steps for equations
  - Solve inequalities with variables on both sides of the inequality sign
11. Solving Inequalities: Part Two
    - Solve inequalities involving negative numbers
  12. Graphing Inequalities on a Number Line
    - Graph inequalities on a number line using the method of testing values
    - Solve and graph the solution of an inequality
  13. Translating Inequalities
    - Translate sentences into algebraic inequalities
    - Solve inequality word problems by translating them into algebraic inequalities and graphing
  14. Problem Solving and Review
    - Solve word problems using algebraic equations
    - Solve word problems using algebraic inequalities

## UNIT 2 – Using Algebra as a Tool

1. Square Roots
  - Understand the concept of a square root
  - Find the square root of a given perfect square
2. Ratios
  - Understand ratios as a comparison of two or more numbers
  - Use knowledge of equivalent fractions to write equal ratios
3. Rates
  - Understand rates, unit rates, and equivalent rates
  - Use unit rates to compare rates
4. Rates with Different Units
  - Find equal rates with different units
  - Solve rate word problems involving unit conversion
5. Introduction to Proportions
  - Understand what a proportion is
  - Find missing values in a proportion using equivalent fractions
  - Solve word problems using proportional thinking
6. Proportions: Map Scales
  - Use a ruler to measure lengths on a map
  - Use proportions to find actual distances between points on a map
  - Given one distance or length, measure and solve for an unknown
7. Proportions: Similar Triangles
  - Understand the concept of similar triangles
  - Use proportions to find one missing side in a pair of similar triangles

8. Proportions: Scale Drawings
  - Use proportions to find dimensions in scale models
  - Use proportional thinking to find the actual dimensions of objects
9. Proportions: Percent
  - Use proportions to solve percent problems
10. Number Patterns and Sequences
  - Use a table to complete a sequence of numbers
  - Create a rule to finding numbers in a sequence
  - Create a sequence based on a list of rules
11. Exploring Visual Patterns
  - Use a table to continue a pattern
  - Analyze a table to create a rule for finding any step of a pattern
12. Functions
  - Understand functions and begin to understand their properties
  - Given a function, generate a sequence using an input-output table
  - Given an input-output table, generate a function
13. Graphing from Tables
  - Use a table to plot points
  - Graph a linear function by creating a table of values
14. Problem Solving & Review
  - Solve word problems involving rates and proportions
  - Solve problems involving sequences and functions

### UNIT 3 – Coordinate and Transformational Geometry

1. Geometry Review
  - Review properties of basic shapes
  - Classify basic shapes
2. Area of Irregular Polygons
  - Find the area of irregular polygons on the coordinate plane
3. Geometric Translations
  - Translate shapes on the coordinate plane
  - Identify the translation based on the coordinates of two shapes
4. Reflections
  - Reflect polygons over a given line in the plane
  - Develop rules for reflecting over the  $x$ - and  $y$ -axes, and for the line  $y = x$
5. Rotations
  - Determine the angle of rotation given a pre-image and image
  - Develop a rule for rotating in multiples of  $90$
6. Dilations
  - Dilate shapes on the coordinate plane



- Find the scale factor of the image and pre-image of a dilated figure
7. Which Transformation Is It?
    - Analyze a pre-image and image to find out which transformation has taken place
  8. Symmetry
    - Determine whether shapes have a line of symmetry
    - Find the number of lines of symmetry a polygon has
  9. Combining Transformations
    - Understand a glide reflection as a unique isometry
    - Combine any two transformations
  10. Tessellations
    - Understand the concept of a tessellation
    - Determine which shapes tessellate the plane
  11. Drawing 3-D Solids
    - Practice drawing different types of solids
    - Draw solids from different viewpoints
  12. Perspective Drawing
    - Understand the concept of a vanishing point
    - Use dilations to draw with perspective
    - Find the vanishing point in a perspective drawing
  13. Vertex-Edge Graphs
    - Understand the meaning of vertex-edge graphs
    - Recognize when a vertex-edge graph is transversable
  14. Problem Solving & Review
    - Solve basic transformational geometry questions
    - Relate transformations to drawing
    - Use vertex-edge graphs to solve map problems

#### UNIT 4 – Review of Math 6A & 6B

1. Operations and Exponents
  - Review basic integer operations
  - Review basic operation properties
  - Review exponents
2. Fractions
  - Review of the concept of a fraction
  - Add, subtract, multiply, and divide fractions
3. Mixed numbers
  - Review the concept of a mixed number
  - Add, subtract, multiply, and divide mixed numbers
4. Decimals
  - Review the concept of a decimal

- Add subtract, multiply, and divide decimals
- 5. Range, Mode, Mean, and Median
  - Find the range, mode, mean, and median of a set of numbers
- 6. Reading Graphs
  - Analyze graphs to answer word problems
- 7. Probability
  - Review the concept of theoretical and experimental probability
  - Determine the theoretical probability for simple and compound events
- 8. Converting Units
  - Review conversion factors within customary and metric measure
  - Convert units within the customary and metric unit systems
- 9. Perimeter and Area
  - Find the perimeters of polygons and the circumference of circles
  - Find the area of rectangles, triangles, and circles
- 10. Transformational Geometry
  - Translate, rotate, reflect, and dilate different geometric figures
  - Determine if a figure has been translated, rotated, reflected or dilated
- 11. Solving Equations
  - Solve one-and two-step equations for a single variable
  - Check answers using substitution
- 12. Functions and Patterns
  - Create a function based on a sequence given
  - Given a function, create a sequence using an input-output table
  - Create a graph for a given function
- 13. Proportions
  - Review the concept of a proportion
  - Find missing values in a proportion using the cross product
  - Review the various applications of proportions
- 14. Problem Solving Strategies
  - Understand the 4-step problem-solving method
  - Use the 4-step problem-solving method to solve a problem

### UNIT 5 – Math in Careers

1. Retailer
  - Make change using subtraction and addition
  - Compute sales prices using percent
  - Compute sales tax using percent
2. Business Owner
  - Understand the concepts of profit, cost, and revenue
  - Use formulas to calculate revenue and profit

3. Banker
  - Understand the benefits of savings accounts
  - Use a formula to calculate simple interest
4. Chef / Baker
  - Work with converting units in baking and cooking
5. Sports Coach
  - Use the mean and percent to examine sports statistics
  - Use data to determine sports statistics
6. Event Planner
  - Use information to create a budget for an event
7. Paleontologist
  - Understand the concept of half-life
  - Solve word problems involving half-lives
8. Dietitian
  - Understand the basic function of cholesterol in the body
  - Use formulas to calculate cholesterol and heart-attack-risk ratio
  - Use a table to interpret results from formulas
9. Contractor
  - Use tables to analyze the cost of different types of flooring
  - Calculate the area of irregular polygons
  - Measure objects using a ruler to solve scale drawing problems
10. Musician
  - Use fractions to understand the beats within music
  - Use fractions and number sense to understand pitch frequency
11. Farmer
  - Use area to determine how much a crop produces
  - Use rates to calculate expenses, revenue, and profit
12. Painter
  - Use ratios and algebra to determine the proper amounts of paint
13. Police Officer
  - Use given information to calculate average speed
  - Use proportions to calculate minimum time
  - Convert units to measure miles per hour
14. Rocket Scientist
  - Use substitution for formulas related to trajectory
  - Solve for a variable in formulas related to trajectory

## M/J Math 7A

Course No. 1205040

### Scope of Course

This course is divided into two semesters of study (A & B) comprised of five units each. The first-semester (A) is a study of whole numbers and integers; rational numbers; statistics; probability; and measurement.

### Sequence of Skills

#### UNIT 1 – Whole Numbers and Integers

1. Whole numbers, integers, and absolute value
  - Understand the definition of whole numbers and integers
  - Use the number line to locate integers
  - Find the absolute value of a number
2. Adding and subtracting integers
  - Model single-sign addition and subtraction of integers with number line and integer chips
  - Develop an algorithm for single-sign addition and subtraction of integers
3. Double-signed addition and subtraction
  - Model double-sign addition and subtraction of integers with integer chips
  - Develop an algorithm for double-sign addition and subtraction
4. Multiplying integers
  - Represent integer multiplication with integer chips
  - Develop and use an algorithm for integer multiplication
5. Dividing integers
  - Understand the concept of division
  - Algebraically perform division of positive and negative integers
6. Exponents
  - Convert between exponents and repeated multiplication
  - Simplify exponential expressions
  - Develop and use the laws of exponents for multiplication and division
7. Square roots
  - Understand the concept of a square root
  - Find the square root of a given perfect square
  - Estimate the square root of a non-perfect square using a number line
8. Order of operations
  - Understand the importance of defining a particular order of math operations
  - Use the correct order of operations
9. Properties of addition and multiplication
  - Understand and identify the commutative, associative, identity, and inverse properties of addition and multiplication
  - Understand and identify the zero property of multiplication

10. Mental math
  - Understand rounding to a place value
  - Estimate multiplying large numbers by rounding to the tens place and hundreds place
11. Prime factorization
  - Understand that any whole number can be written as a product of its prime factors
  - Express a given whole number as a product of its prime factors using exponents
12. The Least Common Multiple (LCM)
  - Find the least common multiple of two whole numbers
13. Divisibility Rules and the Greatest Common Factor (GCF)
  - Develop rules for dividing by 2, 3, 4, 5, 6, 9, and 10
  - Find the greatest common factor of two numbers
14. Review and Problem Solving
  - Solve applications involving different integer operations
  - Solve applications involving arithmetic properties

## UNIT 2 – Rational Numbers

1. Ratios
  - Understand ratios as a comparison of two or more numbers
  - Understand the concept of equivalent ratios
  - Express ratios in simplest form
2. Intro to fractions
  - Understand fractions as rational numbers, and the meaning behind fraction notation
  - Understand the concept of equivalent fractions, and express fractions in lowest terms
  - Convert between mixed numbers and improper fractions
3. Addition and Subtraction with Fractions
  - Understand the concept of adding and subtracting fractions
  - Be able to add and subtract fractions with like and unlike denominators
4. Multiplication and Division with Fractions
  - Understand the concept of multiplying and dividing fractions
  - Understand division as the inverse of multiplication
5. Decimals
  - Understand conceptually what decimal notation means
  - Be able to convert from decimals to mixed numbers and fractions
  - Order decimals, fractions, and mixed numbers
6. Fractions as decimals
  - Convert from a fraction to a terminating or repeating decimal
  - Understand the concept of an irrational number
7. Adding and subtracting decimals
  - Understand decimal addition and subtraction

- Perform decimal addition and subtraction
- 8. Multiplying and dividing decimals
  - Understand decimal multiplication and division
  - Perform decimal multiplication and division
- 9. Negative exponents and scientific notation
  - Understand the concept of scientific notation
  - Convert large whole numbers into scientific notation
- 10. Percentage
  - Convert between decimals and percent
  - Solve problems involving percent
- 11. Application of percent
  - Apply percent to real life situations
  - Solve word problems involving percent
- 12. Putting numbers in order
  - Correctly order any combination of fractions, decimals, mixed numbers, percent, or scientific notation using inequality symbols or a number line
- 13. Number sets
  - Identify the number sets (Natural, whole, integers, rational, and irrational numbers)
  - Recognize which set certain numbers fall into
- 14. Review and Problem Solving
  - Solve applications involving rational numbers and scientific notation

### UNIT 3 – Statistics

1. Collecting Data
  - Learn different sampling methods
2. Pie Graphs
  - Interpret and read pie graphs
  - Understand when pie graphs are used
3. Organizing Information: Frequency Tables
  - Use tally to count frequency of data
  - Organize data using a frequency table
  - Interpret frequency tables
  - Understand the concept of line plots
4. Stem-and-Leaf plots
  - Create Stem-and-Leaf plots
  - Interpret Stem-and-Leaf plots
5. Bar Graphs
  - Use data to make bar graphs
  - Interpret bar graphs
6. Pictographs

- Use data to make a pictograph
- Interpret pictographs
- 7. Histograms
  - Use data to make a histogram
  - Interpret histograms
- 8. Range, Mode, Mean, and Median
  - Analyze data sets by finding the mean, median, mode, and range
- 9. Box-and-Whisker Plots
  - Construct box-and-whisker plots
  - Interpret box-and-whisker plots
- 10. Graphing Coordinates
  - Plot points on a set of axes
  - Identify coordinates of a point on the axes
- 11. Line Graphs
  - Connect plotting points to data measurements
  - Construct and interpret line graphs
- 12. Scatter Plots
  - Plot points for scatter plots
  - Determine the best fit line for a scatter plot
- 13. Using the Appropriate Data Display
  - Understand when to use the correct graph
  - Develop an understanding of how statistics can be misleading
- 14. Review and Problem Solving
  - Solve applications involving different data displays
  - Solve word problems with mean median and mode

#### UNIT 4 – Fractions: Adding and Subtracting

1. Sample spaces
  - Understand the concept of Sets and Sample Spaces
  - Use the Venn diagram model for sets
2. Counting with Venn diagrams
  - Use a Venn diagram to find a missing quantity
3. Counting principle
  - Determine how many ways certain events can occur
  - Use tree diagrams to develop the counting principle
4. Intro to probability
  - Understand the concept of probability
  - Understand that probabilities range from 0% to 100%
  - Find the probability a particular outcome in a simple experiment
5. A deck of cards

- Understand the suits and numbers in a standard deck of cards
- Understand basic probability in a standard deck of cards
- 6. Simple events and expected outcomes
  - Find the theoretical probability of simple events
  - Begin to develop an understanding of theoretical probability and experimental probability
  - Predict the expected outcome of a string events
- 7. Compound Probabilities
  - Understand how to find the probability of two or more independent events
- 8. This or that probability
  - Solve probability problems involving operations with multiple events
- 9. This then that
  - Find the probability of compound events when order is specified
  - Observe the effects of dependent vs. independent events
- 10. This and that
  - Find the probability of compound events when order is not specified
- 11. Dependent events
  - Find the probability of compound events when order is specified
  - Observe the effects of dependent vs. independent events
- 12. Probability experiments
  - Determine the experimental probability of an event
- 13. Theoretical vs. experimental probability
  - Understand the difference between theoretical and experimental probability
  - Create probability experiments and compare data to theoretical probability
- 14. Review and Problem Solving
  - Solve word problems involving probability

### UNIT 5 – Measurement

1. Reading a clock
  - Read a clock
2. Operations with a clock
  - Determine how much time has passed
  - Determine the time after a certain number of hours and minutes have passed
3. Converting units of time
  - Convert between seconds, minutes, hours, days, weeks, months, and years
4. Units of length
  - Identify customary units of length
  - Develop personal references for each unit
  - Convert between units of length
5. Units of weight
  - Identify customary units of weight



- Develop personal references for each unit
- Convert between units of weight
- 6. Units of capacity
  - Identify customary units of capacity
  - Develop personal references for each unit
  - Convert between units of capacity
- 7. Metric system
  - Understand metric units and what they represent
  - Develop personal references for each unit
  - Convert between different metric units
- 8. Tools of measurement
  - Understand when and how to use appropriate tools for measurement
- 9. Temperature
  - Understand how to read a thermometer
  - Understand how to convert between Celsius and Fahrenheit
- 10. Angles
  - Understand what an angle is
  - Understand how to use a protractor
- 11. Rates
  - Understand rates, unit rates, and equivalent rates
  - Use unit rates to compare rates
- 12. Rates with changing units
  - Compare rates with different units
  - Solve rate word problems involving unit conversions
- 13. Operations with measurements
  - Perform arithmetic with measurements
- 14. Review and Problem Solving
  - Solve word problems involving measurement

## M/J Math 7B

Course No. 1205040

### Scope of Course

This course is divided into two semesters of study (A & B) comprised of five units each. The second semester (B) is a study of algebra; algebraic patterns and coordinate geometry; geometric figures; geometric solids; and transformational geometry.

### Sequence of Skills

#### UNIT 1 – Algebra

1. Variables and substitution
  - Understand that letters can be used to represent numbers
  - Substitute a given value to simplify an algebraic expression
2. More substitution
  - Substitute for two or more variables in an expression
  - Substitute for multiple variables to verify the equality of two expressions
3. Polynomials
  - Recognize monomials and polynomials
  - Write polynomials in descending order
4. Translating words to algebraic expressions
  - Translate word phrases into algebraic expressions
  - Solve word problems by translating sentences into algebraic expressions
5. Adding and subtracting polynomials
  - Simplify polynomials by combining like terms
  - Add and subtract polynomials
6. Properties of equality
  - Determine whether quantities are equal
  - Begin solving equations using rules of equality
7. Solving equations; Part One
  - Given an equation, solve for a variable
  - Check answer using substitution
8. Solving equations; Part Two
  - Perform more than one operation to solve for a variable
  - Check answer using substitution
9. Translating sentences to algebraic equations
  - Translate a sentence into an algebraic equation, solve for an unknown, and check using substitution
10. Inequalities: Part One
  - Determine what an inequality is
  - Solve inequalities using steps for equations
  - Solve inequalities with variables on both sides of the inequality sign
11. Inequalities: Part Two

- Solve inequalities involving negative numbers.
- 12. Graphing inequalities
  - Graph inequalities on a number line using the method of testing values
  - Solve and graph the solution of an inequality
- 13. Translating inequalities
  - Translate sentences into algebraic inequalities
  - Solve inequality word problems by translating them into algebraic inequalities and graphing
- 14. Review and Problem Solving
  - Solve word problems using algebraic equations
  - Solve word problems using algebraic inequalities

## UNIT 2 – Algebraic Patterns and Coordinate Geometry

1. Introduction to proportions
  - Understand what a proportion is
  - Find missing values in a proportion using equivalent fractions or cross multiplying
2. Proportion word problems
  - Solve word problems using proportional thinking
3. Proportions with maps
  - Solve word problems using proportional thinking
4. Proportions with similar triangles
  - Understand the concept of similar triangles
  - Use proportions to find one missing side in a pair of similar triangles
5. Proportions: scale drawings
  - Use proportions to find dimensions in scale models
  - Use proportional thinking to find the actual dimensions of objects
6. Proportions: percent
  - Use proportions to solve percent problems
7. Patterns and sequences
  - Use a table to complete a sequence of numbers
  - Create a rule for finding numbers in a sequence
  - Create a sequence based on a list of rules
8. Exploring visual patterns
  - Use a table to continue a pattern
  - Analyze a table to create a rule for finding any step of a pattern
9. Introduction to functions
  - Given a function, generate a sequence using an input-output table
  - Given an input-output table, generate a function
10. Graphing lines
  - Use a table to plot points
  - Graph a linear function by creating a table of values

11. Investigating the graph of a line
  - Find the slope and y-intercept of a line given a graph
  - Apply the slope formula to find the slope of a line given two points
  - Find the y-intercept of a line given the equation
12. Slope-intercept form of a line
  - Find the equation of a line given its graph
  - Determine what happens to a line graph if you change the slope or the y-intercept
13. Systems of linear equations
  - Solve a system of equations graphically and algebraically
  - Model a situation using a system of linear equations
  - Determine the number of solutions to a system of linear equations
14. Review and Problem Solving
  - Solve word problems involving rates and proportions
  - Solve problems involving sequences and linear functions

### UNIT 3 – Geometric Figures

1. Classifying angles
  - Understand the concept of angles and the different classifications of angles
  - Identify the type of angle based on its measurement
  - Understand and identify parallel and perpendicular lines
2. Properties of parallel lines
  - Understand the property of parallel lines being cut by a transversal
3. Polygons
  - Distinguish between different types of polygons
  - Understand the concept of a regular polygon
4. Triangles
  - Distinguish between different types of triangles
  - Use the angle sum of a triangle to find missing values
5. Pythagorean theorem
  - Use the Pythagorean Theorem to find missing sides in a right triangle
  - Determine if a set of numbers is a Pythagorean triple
6. Quadrilaterals
  - Understand what a quadrilateral is
  - Distinguish between different types of quadrilaterals
7. Angle properties of polygons
  - Determine the interior angle sum for a polygon
  - Determine the measure of each interior and exterior angle in a regular polygon
8. Perimeter and area of quadrilaterals
  - Understand the concepts of area and perimeter
  - Derive formulas for, and be able to compute area and perimeter of a square, rectangle, and parallelogram
9. Perimeter and area of triangles

- Understand how to find the perimeter of different types of triangles
  - Understand how to find the area of different types of triangles
10. Perimeter and area of polygons
    - Find the perimeter of regular and irregular polygons
    - Find the area of regular and irregular polygons
  11. Congruence and similarity
    - Determine which polygons are congruent
    - Determine which polygons are similar
  12. Introduction to circles
    - Understand the concepts of radius and diameter
    - Determine what percent of a circle a central angle takes up
  13. Area and circumference of circles
    - Determine the area of a circle based on the diameter and radius
    - Determine the circumference of a circle based on the diameter and radius
  14. Review and Problem Solving
    - Solve word problems involving area, circumference, and perimeter
    - Develop problem solving skills by drawing pictures

#### UNIT 4 – Geometric solids and constructions

1. Introduction to 3-dimensional solids
  - Classify different 3-dimensional solids
2. Properties of solids
  - Understand the parts that make a 3-dimensional solid
3. Volume of prisms
  - Calculate the volume of rectangular and triangular prisms
  - [http://www.learner.org/interactives/geometry/3d\\_prisms.html](http://www.learner.org/interactives/geometry/3d_prisms.html)
4. Volume of pyramids
  - Calculate the volume of rectangular and triangular pyramids
5. Surface and lateral area of prisms
  - Calculate the surface and lateral area of rectangular and triangular prisms using nets and perspective drawing
  - [http://www.learner.org/interactives/geometry/3d\\_prisms.html](http://www.learner.org/interactives/geometry/3d_prisms.html)
6. Surface and lateral area of pyramids
  - Calculate the surface and lateral area of rectangular and triangular pyramids using nets and perspective drawing
  - [http://www.learner.org/interactives/geometry/3d\\_pyramids.html](http://www.learner.org/interactives/geometry/3d_pyramids.html)
7. Dimensions of a solid
  - Use algebraic equations to find missing dimensions of a solid
8. Slicing 3-dimensional solids
  - Describe plane sections
  - [http://www.learner.org/courses/learningmath/geometry/session9/part\\_c/](http://www.learner.org/courses/learningmath/geometry/session9/part_c/)
9. Constructing geometric shapes

- Use a protractor to draw and measure angles
  - Draw geometric shapes with given conditions
  - <http://www.mathsisfun.com/geometry/protractor-using.html>
10. Technology and geometric solids
    - Use technology to investigate geometric solids
    - <http://illuminations.nctm.org/Activity.aspx?id=3521>
  11. Applications of area
    - Solve real-world problems involving area of 2-dimensional figures
  12. Applications of volume
    - Solve real-world problems involving volume of 3-dimensional solids
  13. Applications of surface and lateral area
    - Solve real-world problems involving surface and lateral area of 3-dimensional solids
  14. Review and Problem Solving
    - Solve applications involving 3-dimensional solids

### UNIT 5 – Transformations and economic applications of proportions

1. Similar figures
  - Identify and describe similarity of two-dimensional shapes using side and angle measurements
2. Lines of symmetry
  - Identify lines of symmetry for a reflection
3. Transformations
  - Use technology to investigate transformations on a coordinate plane
  - <http://www.shodor.org/interactivate/activities/Transmographer/>
4. Reflections
  - Perform reflections on a given pre-image in the coordinate plane
  - Use reflection notation
  - <http://www.mathwarehouse.com/transformations/reflections-in-math.php>
5. Translations
  - Perform translations on a given pre-image in the coordinate plane
  - Use translation notation
  - <http://www.mathwarehouse.com/transformations/translations-in-math.php>
6. Rotations
  - Perform rotations on a given pre-image in the coordinate plane
  - Use rotation notation
  - <http://www.mathwarehouse.com/transformations/rotations-in-math.php>
7. Compositions of transformations
  - Perform multiple transformations on a given pre-image in the coordinate plane
8. Sales and income tax
  - Calculate the sales tax for a given purchase and income tax for earned wages
9. Budgets

- Identify the components of a personal budget, including income, savings, taxes, and expenses
  - Calculate the percentage of each category
10. Financial assets
- Create and organize a financial assets and liabilities record
  - Construct a net worth statement
11. Family budget estimator
- Determine the minimum household budget and average hourly wage
  - Family budget calculator: <http://www.epi.org/resources/budget/>
12. Simple and compound interest
- Calculate and compare simple and compound interest earnings
13. Monetary incentives
- Analyze and compare sales, rebates, and coupons
14. Review and Problem Solving
- Solve applications involving proportions, taxes, budgets, interest, and monetary incentives

**M/J Math 8A**

Course No. 1205070

**Scope of Course**

This course is divided into two semesters of study (A & B) comprised of five units each. The first-semester (A) is a study of real numbers; algebraic expressions; factoring, linear equations, and inequalities; functions and systems; and probability and statistics.

**Sequence of Skills****UNIT 1 – Real Numbers**

1. Natural Numbers, Whole Numbers, and Integers
2. Rational Numbers
3. Perfect Squares, Radicals, and Irrational Numbers
4. Rational vs. Irrational Numbers
5. Prime and Composite Numbers
6. Fractions and Number Sense
7. Operations with Fractions
8. Decimals
9. Scientific Notation and Percent
10. Properties of Real Numbers
11. Absolute Value
12. Prime Factorization
13. Estimation
14. Problem Solving

**UNIT 2 – Algebraic Expressions**

1. Writing Algebraic Expressions
2. Polynomials
3. Combining Like Terms
4. Adding and Subtracting Polynomials
5. Algebraic Expressions with Exponents
6. More on Algebraic Expressions with Exponents
7. Negative Exponents
8. Order of Operations
9. Evaluating Algebraic Expressions
10. Multiplication of Polynomials
11. Multiplication of Binomials
12. Special Binomial Products
13. Division of Polynomials
14. Applications of Polynomials

**UNIT 3 – Factoring, Linear Equations, and Inequalities**

1. Common Factors
2. Factoring Trinomials
3. Factoring the Difference of Two Squares



4. Factoring- Mixed Review
5. One-Step Equations
6. Two-Step Equations
7. Multi-Step Equations
8. Writing Equations
9. Literal Equations
10. Word Problems
11. Proportions
12. Patterns and Formulas
13. Linear and Non-Linear Relationships
14. Inequalities

#### UNIT 4 – Functions and Systems

1. Relations and Functions
2. Functional Notation
3. Graphing
4. Slope of a Line
5. Intercepts
6. Linear Functions
7. Slope-Intercept Form
8. Applications of Slope and Intercepts
9. Systems of Equations- Graphing
10. Systems of Equations- Substitution Method
11. Systems of Equations- Elimination Method
12. Graphing Inequalities
13. Systems of Inequalities
14. Introduction to Quadratic Functions

#### UNIT 5 – Probability and Statistics

1. Independent and Dependent Events
2. Simple and Compound Events
3. Mutually Exclusive and Complementary Events
4. Tree Diagrams and Multistage Experiments
5. Experimental Probabilities and Simulations
6. Odds and Counting Principles
7. Line Plots and Stem and Leaf Plots
8. Scatter Plots and Line of Best Fit
9. Bar Graphs and Histograms
10. Line Graphs and Pictographs
11. Circle Graphs
12. Measures of Central Tendency
13. Box and Whisker Plots
14. Venn Diagrams

**M/J Math 8B**

Course No. 1205070

**Scope of Course**

This course is divided into two semesters of study (A & B) comprised of five units each. The second-semester (B) is a study of angles and polygons; coordinate geometry, circles, and graph theory; transformational geometry; measurement; and logic.

**Sequence of Skills****UNIT 1 – Angles and Polygons**

1. Points, Lines, and Planes
2. Line Segments, Rays, and Angles
3. Plane Geometry
4. Complementary and Supplementary Angles
5. Vertical Angles
6. Transversals and Parallel Lines
7. Triangles
8. Isosceles and Equilateral Triangles
9. The Pythagorean Theorem
10. The Triangle Inequality
11. Quadrilaterals
12. Parallelograms
13. Polygons
14. Regular Polygons

**UNIT 2 – Coordinate Geometry, Circles, and Graph Theory**

1. The Coordinate Plane
2. Slope
3. Rates of Change
4. Midpoint
5. Distance
6. Applications of Coordinate Geometry
7. Circles
8. Circles, Tangents, and Secants
9. Circles and Inscribed Angles
10. Locus of Points
11. Introduction to Graph Theory
12. Euler Paths and Circuits
13. Hamilton Paths and Circuits
14. Cartography

**UNIT 3 – Transformational Geometry**

1. Transformations
2. Translations
3. Reflections

4. Rotations
5. Dilations
6. Congruent Figures
7. Similar Figures
8. Applications of Similar Figures
9. Tessellations with Polygons
10. Combinations of Transformations
11. Isometries
12. Symmetry
13. Introduction to Constructions
14. Triangle Constructions

#### UNIT 4 – Measurement

1. Perimeter
2. Area
3. Connection between Perimeter and Area
4. Area of a Parallelogram
5. Area of a Triangle
6. Area of a Trapezoid
7. Classification of Solids
8. Nets, and Three-Dimensional Figures
9. Volume of Rectangular Prisms
10. Volume of Cylinders and Cones
11. Surface Area
12. Effects of Changing Dimensions
13. Measurement – Conversions
14. Measurement – Estimation and Accuracy

#### UNIT 5 – Logic

1. Statements and Their Negations
2. Conjunctions
3. Disjunctions
4. Conditional Statements
5. More on Logic Statements
6. The Converse of a Statement
7. The Inverse of a Statement
8. Contrapositives and Logically Equivalent Statements
9. Review of Conditionals
10. Biconditional Statements
11. Deduction
12. Induction
13. Logic Puzzles
14. Advanced Logic Puzzles

## M/J U.S. History A

Course No. 2100010

### Scope of Course

History of the United States, A and B, is a two-semester, middle level course. Part A covers the history of the Western Hemisphere, from pre-Colombian civilizations to the beginning of the 20th century. Part B begins with the early 1900s and continues to the present day. Each half of the course addresses standards in social studies (history, geography, economics, and civics), in English-Language Arts (reading and writing), and in mathematics (creating and interpreting statistics, charts and graphs).

### Sequence of Skills

#### UNIT 1 – Prehistory to Colonization of the Western Hemisphere

1. Geography of the Western Hemisphere
2. Ice Age Migrations and early Civilizations
3. The Empire Builders
4. The Science of Studying History
5. Native Peoples of North America: the Arctic, Pacific Northwest, and Basin Regions
6. The Southwest and Great Plains Regions
7. The Mound Builders, Eastern Woodlands, and Southeastern Regions
8. The Age of Discovery – First Contact
9. Cultures in Contrast: the Columbian Exchange
10. The Colonization of the New World: the Spanish and French Create Empires
11. The English Come to North America
12. The Thirteen English Colonies
13. Comparing the European Colonies in North America

#### UNIT 2 – The French and Indian War to the Constitutional Convention

1. The French and Indian War
2. Relations with Great Britain Change
3. The Road to the Revolutionary War
4. The Revolutionary War
5. Independence
6. The Revolutionary War Continues to its End
7. A Look Back at the Revolutionary War
8. Founding Fathers of a New Nation
9. The New Nation: the Critical Period
10. Making a New Plan of Government
11. The U.S. Constitution: A Bundle of Compromises
12. The Road to Ratification
13. The Bill of Rights

#### UNIT 3 – The Constitution

1. Overview of the U.S. Constitution
2. Article I: The Legislative Branch
3. Article II: The Executive Branch

4. Article III: The Judicial Branch
5. Articles IV – VI
6. Check and Balances: The Federal System
7. State Governments and Constitutions
8. Local Government
9. How a Bill Becomes a Law
10. The Legal Process
11. Constitutional Rights in Action
12. National Symbols
13. Citizenship in the United States

#### **UNIT 4 – The New Nation**

1. The New Government Begins
2. Solving Financial Problems and Interpreting the Constitution
3. George Washington’s Precedents and Legacy
4. The Federalists and Democratic Republicans
5. The Age of Jefferson
6. Domestic and Foreign Conflicts
7. The Industrial Revolution in America
8. Growth and Expansion under the Republicans
9. The Age of Jackson
10. “From Sea to Shining Sea”
11. Sectionalism Grows into Conflict
12. Sectional Differences Lead to War
13. The Civil War

#### **UNIT 5 – The United States Comes of Age: 1866 to 1910**

1. Reconstruction
2. The Realities of Reconstruction in the South
3. The Rapid Growth of the West
4. The Native American Way of Life Ends
5. The End of the Frontier
6. The United States Becomes an Industrial Giant
7. Big Business – the Empire Builders
8. The Rise of Labor Unions
9. Immigration
10. Reform Movements
11. The New Manifest Destiny
12. Theodore Roosevelt and Relations with Latin America
13. The United States at the Turn of the Century

## M/J U.S. History B

Course No. 2100010

### Scope of Course

History of the United States, A and B, is a two-semester, middle level course. Part A covers the history of the Western Hemisphere, from pre-Colombian civilizations to the beginning of the 20th century. Part B begins with the early 1900s and continues to the present day. Each half of the course addresses standards in social studies (history, geography, economics, and civics), in English-Language Arts (reading and writing), and in mathematics (creating and interpreting statistics, charts and graphs).

### Sequence of Skills

#### UNIT 1 – 1910 to 1939

1. The Progressive Party and the Early Twentieth Century
2. World War I
3. The United States Enters the War
4. The United States at War
5. Wilson's Fourteen Points and the Treaty of Versailles
6. A Return to *Normalcy* and Economic Boom
7. Reform and the Age of Intolerance
8. The Roaring Twenties – A New National Culture Emerges
9. From Boom Times to Hard Times – The Beginning of the Great Depression
10. The End of Laissez Faire: the Government Tries to Help
11. The New Deal – More than a Temporary Solution
12. Pros and Cons of the New Deal
13. Essay on New Deal Programs

#### UNIT 2 – 1939 to 1960

1. The Rise of Dictatorships in the 1930s
2. Another World War
3. World War II: The Home Front
4. Fighting World War II
5. The Defeat of the Japanese – World War II Ends
6. The Holocaust and Other War Crimes
7. The Cold War
8. Fighting the Cold War Around the World
9. The Cold War and American Society
10. Postwar Policies: 1945 – 1960
11. American Society in the 1950s
12. The Civil Rights Movement Begins
13. Containment Essay

#### UNIT 3 – 1960 to 1990

1. The 1960s Begin
2. The Cold War Continues; the End of Camelot
3. Lyndon Baines Johnson – The Great Society Years

4. The Civil Rights Movement Continues
5. Other Minorities Fight for their Rights
6. The War in Vietnam
7. The Nixon Years
8. Watergate
9. the Ford Presidency
10. Jimmy Carter
11. Conservatives Take Charge
12. Foreign Policy Under Ronald Reagan
13. The 1960s vs. the 1980s

#### UNIT 4 – 1990 to 2011

1. At the End of the Cold War
2. The Gulf War
3. The Clinton Years: Foreign Policy – America’s New Role
4. Terrorism
5. Domestic Issues and Policies
6. George W. Bush
7. 9/11
8. Responses to 9/11
9. The End of the Bush Years and the Election of 2008
10. Barack Obama
11. The Economy
12. Domestic Policies and Healthcare Reform
13. Decades Project

#### UNIT 5 – Global Citizenship in the 21<sup>st</sup> Century

1. Being a Responsible Citizen of the United States and the World
2. An Explosion of Technology and Communication
3. Globalization and Its Effects
4. A Changing Global Economy
5. World Politics – America’s New Role
6. Environmental Issues
7. Personal Finance – Microeconomics
8. Jobs and Careers of the Future
9. Global Issues and Current Events

## English 1A

Course No. 1001310

### Scope of Course

English 1A develops and strengthens reading, writing, listening, speaking, viewing and producing skills through the study of myths and folk tales, a drama, a novel, poetry, and non-fiction. All units provide students with practice in preparing journal entries and vocabulary acquisition.

### Sequence of Skills

#### UNIT 1 – Myths, Tales, and Legends

1. Examine myths, tales and legends from various cultures
2. Write a myth
3. Write a literary essay, brainstorming, drafting, revising and rewriting
4. Identify literary themes
5. Identify and use correctly nouns, pronouns, verbs, and adjectives

#### UNIT 2 – Drama: The Diary of Anne Frank

1. Read and analyze the drama *The Diary of Anne Frank*
2. Understand the historical background for the drama
3. Read and understand related poetry
4. Write a literary essay, brainstorming, drafting, revising and rewriting
5. Identify and use correctly adverbs, prepositions, conjunctions, and interjections

#### UNIT 3 – Novel: *The Old Man and the Sea* OR Generic Novel Unit

1. Read and analyze *The Old Man and the Sea*
2. Write a script for a television story
3. Write a literary essay, brainstorming, drafting, revising and rewriting
4. Interpret the novel through drawing activities
5. Identify phrases and clauses and understand the structure of a sentence

**Note: Students may choose to read and complete the “Generic Novel Unit” in place of Unit 3. See online course registration for novel options for English 1A. The Scope and Sequence of the Generic Novel Unit is provided on page 57.**

#### UNIT 4 -- Poetry

1. Identify literary terms associated with poetry
2. Write poetry
3. Write a literary essay on a poem
4. Identify types of sentences and correct sentence fragments and run-on sentences



UNIT 5: Nonfiction OR Preparing for College

1. Read and analyze non-fiction material
2. Write a job application and personal letter
3. Conduct interviews and develop a character sketch from them
4. Use correct punctuation and capitalization

**Note: Instead of Unit 5, Nonfiction, an alternative Unit is available for substitution in one PASS English course. The alternative Unit, named Preparing for College, offers students the opportunity to research and read about their chosen future post-graduation. The same unit is available as a substitute for Unit 5 of English 1A-B, English 2A-B, English 3A-B, and English 4A-B; thus, it can only be used once per student. The Scope and Sequence of the Preparing for College unit is provided on page 59.**

## English 1B

Course No. 1001310

### Scope of Course

English 1B develops and strengthens reading, writing, listening, speaking, viewing and producing skills through the study of short stories, a drama, a novel, poetry, and non-fiction. All units provide students with practice in preparing journal entries and vocabulary acquisition.

### Sequence of Skills

#### UNIT 1 -- Short Stories

1. Understand literary terms
2. Read and analyze short stories
3. Analyze a drawing, a commercial and a news story
4. Write a literary essay, brainstorming, drafting, revising and rewriting
5. Identify and use correctly nouns, pronouns, verbs, and adjectives

#### UNIT 2 -- Drama: A Raisin in the Sun

1. Understand literary terms
2. Read and analyze the drama *A Raisin in the Sun*
3. Understand its background
4. Read parts of the play aloud with another "actor"
5. Complete graphic activities
6. Write a literary essay, brainstorming, drafting, revising and rewriting
7. Identify and use correctly adverbs, prepositions, conjunctions, and interjections

#### UNIT 3 – Novel: *The House on Mango Street* OR Generic Novel Unit

1. Read and analyze *The House on Mango Street*
2. Write a literary essay, brainstorming, drafting, revising and rewriting
3. Complete graphic activities
4. Identify phrases and clauses and understand the structure of a sentence

**Note: Students may choose to read and complete the “Generic Novel Unit” in place of Unit 3. See online course registration for novel options for English 1B. The Scope and Sequence of the Generic Novel Unit is provided on page 57.**

#### UNIT 4 -- Poetry

1. Read and analyze poetry
2. Compare one poem with another
3. Understand literary terms
4. Write poetry
5. Identify types of sentences and correct sentence fragments and run-on sentences

UNIT 5 – Nonfiction OR Preparing for College Unit

1. Read and analyze non-fiction
2. Write a memo
3. Compare a review of a performance with personal experience
4. Recognize genres such as nightly news, newsmagazines and documentaries
5. Write a literary essay, brainstorming, drafting, revising and rewriting
6. Practice use of correct punctuation and capitalization

**Note: Instead of Unit 5, Nonfiction, an alternative Unit is available for substitution in one PASS English course. The alternative Unit, named Preparing for College, offers students the opportunity to research and read about their chosen future post-graduation. The same unit is available as a substitute for Unit 5 of English 1A-B, English 2A-B, English 3A-B, and English 4A-B; thus, it can only be used once per student. The Scope and Sequence of the Preparing for College unit is provided on page 59.**

## English 2A

Course No. 1001340

### Scope of Course

English IIA develops and strengthens reading, writing, listening, speaking, viewing and producing skills through the study of short stories, a drama, a novel, poetry, and the newspaper. All units provide students with practice in preparing journal entries and vocabulary acquisition.

### Sequence of Skills

#### UNIT 1 – Short Stories

1. Read and analyze short stories from various cultures
2. Understand literary terms
3. Complete graphic activities
4. Write a literary essay, brainstorming, drafting, revising and rewriting
5. Identify and use correctly nouns, pronouns, verbs, and adjectives

#### UNIT 2 – Drama: The Miracle Worker

1. Read and analyze biographies
2. Read and analyze *The Miracle Worker*
3. Write an autobiography
4. Identify and use correctly adverbs, prepositions, conjunctions, and interjections

#### UNIT 3 – Novel: *The Pearl* OR Generic Novel Unit

1. Read and analyze *The Pearl*
2. Understand historical background for *The Pearl*
3. Write a script for a television story
4. Write a literary essay, brainstorming, drafting, revising and rewriting
5. Identify phrases and clauses and understand the structure of a sentence

**Note: Students may choose to read and complete the “Generic Novel Unit” in place of Unit 3. See online course registration for novel options for English 2A. The Scope and Sequence of the Generic Novel Unit is provided on page 57.**

#### UNIT 4 – Poetry

1. Understand literary terms
2. Read and analyze poetry
3. Read poetry to another person
4. Write poetry
5. Identify types of sentences and correct sentence fragments and run-on sentences

UNIT 5 – The Newspaper OR Preparing for College

1. Identify characteristics of newspaper sections
2. Learn about careers in the newspaper industry
3. Read and analyze various newspaper stories
4. Interpret graphs, maps, statistical tables
5. Write various types of newspaper articles
6. Write a letter to the editor
7. Draw a comic strip
8. Use correct punctuation and capitalization

**Note: Instead of Unit 5, Nonfiction, an alternative Unit is available for substitution in one PASS English course. The alternative Unit, named Preparing for College, offers students the opportunity to research and read about their chosen future post-graduation. The same unit is available as a substitute for Unit 5 of English 1A-B, English 2A-B, English 3A-B, and English 4A-B; thus, it can only be used once per student. The Scope and Sequence of the Preparing for College unit is provided on page 59.**

## English 2B

Course No. 1001340

### Scope of Course

English IIB develops and strengthens reading, writing, listening, speaking, viewing and producing skills through the study of short stories, a drama, a novel, poetry, and the newspaper. All units provide students with practice in preparing journal entries and vocabulary acquisition.

### Sequence of Skills

#### UNIT 1 – Short Stories

1. Read and analyze short stories
2. Conduct a survey
3. Write a script for a television story
4. Analyze a commercial
5. Write a literary essay, brainstorming, drafting, revising and rewriting
6. Identify and use correctly nouns, pronouns, verbs, and adjectives

#### UNIT 2 – Drama: *Antigone*

1. Explore Greek myths
2. Explore beliefs of other cultures
3. Read, analyze and illustrate *Antigone*
4. Analyze a drawing and commercials
5. Write a literary essay, brainstorming, drafting, revising and rewriting
6. Identify and use correctly adverbs, prepositions, conjunctions, and interjections

#### UNIT 3 – Novel: *The Good Earth* OR Generic Novel Unit

1. Understand historical background of *The Good Earth*
2. Read and analyze *The Good Earth*
3. Prepare character charts and plot outlines
4. Analyze ideas in various media
5. Write a literary essay, brainstorming, drafting, revising and rewriting
6. Identify phrases and clauses and understand the structure of a sentence

**Note: Students may choose to read and complete the “Generic Novel Unit” in place of Unit 3. See online course registration for novel options for English 2B. The Scope and Sequence of the Generic Novel Unit is provided on page 57.**

#### UNIT 4 – Poetry

1. Understand literary terms
2. Read and analyze poetry
3. Write poetry
4. Analyze a song
5. Identify types of sentences and correct sentence fragments and run-on sentences

UNIT 5 – Essays OR Preparing for College

1. Read and analyze essays
2. Understand characteristics of various types of essays
3. Compare a performance with personal experience
4. Write various types of essays
5. Use correct punctuation and capitalization

**Note: Instead of Unit 5, Nonfiction, an alternative Unit is available for substitution in one PASS English course. The alternative Unit, named Preparing for College, offers students the opportunity to research and read about their chosen future post-graduation. The same unit is available as a substitute for Unit 5 of English 1A-B, English 2A-B, English 3A-B, and English 4A-B; thus, it can only be used once per student. The Scope and Sequence of the Preparing for College unit is provided on page 59.**

## English 3A

Course No. 1001370

### Scope of Course

English 3A develops and strengthens reading, writing, listening, speaking, viewing and producing skills through the study of short stories, a drama, a novel, poetry and nonfiction. All units provide students with practice in preparing journal entries and vocabulary acquisition.

### Sequence of Skills

#### UNIT 1 – Short Stories

1. Understand literary terms
2. Read, analyze, compare and contrast short stories
3. Read, analyze, compare and contrast a current news story presented in two different media
4. Conduct an Internet or hard copy search for information to answer questions about an author and setting
5. Complete an outline for each story
6. Identify and use correctly the parts of speech

#### UNIT 2 – Drama: *Our Town*

1. Understand the background and literary terms for the drama
2. Locate props and furniture on stage diagrams
3. Make predictions about what will happen in the play
4. Conduct interviews for an oral history and write a biography based on notes
5. Evaluate a performance of a literary work
6. Identify phrases and clauses and understand the structure of a sentence

#### UNIT 3 – Novel: *To Kill a Mockingbird* OR Generic Novel Unit

1. Read and analyze *To Kill a Mockingbird*
2. Analyze a news story's presentation in different medium
3. Deliver a speech defending one of the story's characters
4. Write a variety of newspaper articles and accounts of an experience using various viewpoints
5. Identify types of sentences and correct sentence fragments and run-on sentences

**Note: Students may choose to read and complete the “Generic Novel Unit” in place of Unit 3. See online course registration for novel options for English 3A. The Scope and Sequence of the Generic Novel Unit is provided on page 57.**

#### UNIT 4 – Poetry

1. Discuss poetry as a literary genre
2. Understand literary terms associated with poetry and identify their applications in selected poems
3. Learn about literary periods for poetry in the United States
4. Create personal and visual responses to poems
5. Present poems orally
6. Write poems on a number of topics
7. Practice use of correct punctuation and capitalization



UNIT 5 – Nonfiction OR Preparing for College

1. Learn about historical background for selected nonfiction works
2. Understand aspects of various media
3. Relate happenings of nonfiction pieces to your own life
4. Deliver a brief presentation
5. Practice correct usage of modifiers, adverb clauses, pronoun references and comparisons

**Note: Instead of Unit 5, Nonfiction, an alternative Unit is available for substitution in one PASS English course. The alternative Unit, named Preparing for College, offers students the opportunity to research and read about their chosen future post-graduation. The same unit is available as a substitute for Unit 5 of English 1A-B, English 2A-B, English 3A-B, and English 4A-B; thus, it can only be used once per student. The Scope and Sequence of the Preparing for College unit is provided on page 59.**

## English 3B

Course No. 1001370

### Scope of Course

English 3B develops and strengthens reading, writing, listening, speaking, viewing and producing skills through the study of short stories, a drama, a novel, poetry, and non-fiction. All units provide students with practice in preparing journal entries and vocabulary acquisition.

### Sequence of Skills

#### UNIT 1 – Short Stories

1. Understand literary terms
2. Read and analyze short stories
3. Identify and explain examples of types of conflict
4. Create personal and visual responses to a story
5. Analyze content and purposes of media forms and messages
6. Write a literary essay, brainstorming, drafting, revising and rewriting
7. Identify and use correctly nouns, pronouns, verbs, and adjectives

#### UNIT 2 – Drama: *Death of a Salesman*

1. Understand literary terms
2. Read, analyze and understand the cultural background for *Death of a Salesman*
3. Prepare and deliver a sales speech
4. Write a literary essay, brainstorming, drafting, revising and rewriting
5. Identify and use correctly adverbs, prepositions, conjunctions, and interjections

#### UNIT 3 – Novel: *The Adventures of Huckleberry Finn* OR Generic Novel Unit

1. Understand literary terms
2. Read and analyze *The Adventures of Huckleberry Finn*
3. Write and compile various types of newspaper articles and advertisements
4. Present oral report
5. Use maps to follow the story and develop visual responses to the story
6. Identify phrases and clauses and understand the structure of a sentence

**Note: Students may choose to read and complete the “Generic Novel Unit” in place of Unit 3. See online course registration for novel options for English 3B. The Scope and Sequence of the Generic Novel Unit is provided on page 57.**

#### UNIT 4 – Poetry

1. Understand and identify literary terms
2. Read, analyze, discuss and write poetry
3. Create personal and visual responses to poetry
4. Assemble a portfolio of poems
5. Identify types of sentences and correct sentence fragments and run-on sentences

UNIT 5 – Nonfiction OR Preparing for College

1. Read and analyze nonfiction
2. Develop visual responses to literary works
3. Obtain information on colleges from the Internet or library
4. Write a personal essay for a job or college application, brainstorming, drafting, revising and rewriting
5. Use correct punctuation and capitalization

**Note: Instead of Unit 5, Nonfiction, an alternative unit is available for substitution in one PASS English course. The alternative unit, named Preparing for College, offers students the opportunity to research and read about their chosen future post-graduation. The same unit is available as a substitute for Unit 5 of English 1A-B, English 2A-B, English 3A-B, and English 4A-B; thus, it can only be used once per student. The Scope and Sequence of the Preparing for College unit is provided on page 59.**

## English 4A

Course No. 1001400

### Scope of Course

English 4A develops and strengthens reading, writing, listening, speaking, viewing and producing skills through the study of short stories, a drama, a novel, and units on continuing education/finding a job and preparing a research paper. All units provide students with practice in preparing journal entries and vocabulary acquisition.

### Sequence of Skills

#### UNIT 1 – Short Stories

1. Understand literary terms
2. Read and analyze British short stories and a fairy tale
3. Write a creative essay, brainstorming, drafting, revising and rewriting
4. Identify and use correctly the parts of speech

#### UNIT 2 – Drama: *Macbeth*

1. Understand the background and literary terms for the drama
2. Read, analyze and prepare drawings for *Macbeth*
3. Write a literary essay, brainstorming, drafting, revising and rewriting
4. Identify phrases and clauses and understand the structure of a sentence

#### UNIT 3 – Novel: *Animal Farm* OR Generic Novel Unit

1. Read and analyze fables and *Animal Farm*
2. Cast a movie
3. Complete graphic activities
4. Write a literary essay, brainstorming, drafting, revising and rewriting
5. Identify types of sentences and correct sentence fragments and run-on sentences

**Note: Students may choose to read and complete the “Generic Novel Unit” in place of Unit 3. See online course registration for novel options for English 4A. The Scope and Sequence of the Generic Novel Unit is provided on page 57.**

#### UNIT 4 – Continuing Your Education / Finding a Job

1. Complete a college application
2. Write an essay for college admission
3. Learn sources of financial aid
4. Learn steps to finding a job
5. Prepare a personal fact sheet and resume
6. Complete a job application
7. Prepare for a job interview
8. Practice use of correct punctuation and capitalization

UNIT 5 – The Research Paper OR Preparing for College

1. Choose a research paper topic
2. Conduct research from various sources, preparing data cards
3. Develop thesis statement
4. Prepare outline and rough draft
5. Prepare "Works Cited" listing
6. Revise, edit and write final draft of research paper
7. Practice correct usage of modifiers, adverb clauses, pronoun references and comparisons

**Note: Instead of Unit 5, Nonfiction, an alternative Unit is available for substitution in one PASS English course. The alternative Unit, named Preparing for College, offers students the opportunity to research and read about their chosen future post-graduation. The same unit is available as a substitute for Unit 5 of English 1A-B, English 2A-B, English 3A-B, and English 4A-B; thus, it can only be used once per student. The Scope and Sequence of the Preparing for College unit is provided on page 59.**

## English 4B

Course No. 1001400

### Scope of Course

English 4B develops and strengthens reading, writing, listening, speaking, viewing and producing skills through the study of short stories, a drama, a novel, poetry, and non-fiction. All units provide students with practice in preparing journal entries and vocabulary acquisition.

### Sequence of Skills

#### UNIT 1 – Short Stories

1. Understand literary terms
2. Read and analyze short stories
3. Write a friendly and a business letter
4. Analyze a commercial
5. Write newspaper and radio articles
6. Write a literary essay, brainstorming, drafting, revising and rewriting
7. Identify and use correctly nouns, pronouns, verbs, and adjectives

#### UNIT 2 – Drama: *Pygmalion*

1. Understand literary terms
2. Read, analyze and understand the cultural background for *Pygmalion*
3. Prepare concept maps and complete graphic activities
4. Conduct a survey
5. Compare a review of a performance with personal experience
6. Write a literary essay, brainstorming, drafting, revising and rewriting
7. Identify and use correctly adverbs, prepositions, conjunctions, and interjections

#### UNIT 3 – Drama: *Lord of the Flies* OR Generic Novel Unit

1. Understand literary terms
2. Read and analyze *Lord of the Flies*
3. Analyze a drawing
4. Present oral report
5. Write a literary essay, brainstorming, drafting, revising and rewriting
6. Identify phrases and clauses and understand the structure of a sentence

**Note: Students may choose to read and complete the “Generic Novel Unit” in place of Unit 3. See online course registration for novel options for English 4B. The Scope and Sequence of the Generic Novel Unit is provided on page 57.**

#### UNIT 4 – Poetry

1. Understand literary terms
2. Read and analyze poetry
3. Analyze ideas presented in the media
4. Write poetry
5. Identify types of sentences and correct sentence fragments and run-on sentences

UNIT 5 – Non-Fiction OR Preparing for College

1. Read and analyze non-fiction
2. Consider various news genres
3. Explore resources on the Internet
4. Write a literary essay, brainstorming, drafting, revising and rewriting

**Note: Instead of Unit 5, Nonfiction, an alternative Unit is available for substitution in one PASS English course. The alternative Unit, named Preparing for College, offers students the opportunity to research and read about their chosen future post-graduation. The same unit is available as a substitute for Unit 5 of English 1A-B, English 2A-B, English 3A-B, and English 4A-B; thus, it can only be used once per student. The Scope and Sequence of the Preparing for College unit is provided on page 59.**

## Alternative Units for English 1-4

## Generic Novel Unit

### Scope of Course

This unit is designed to allow for flexibility in choice of the Unit 3 Novel selection for any of the PASS English courses from grades 9–12. Lessons and instructional materials contained in the unit may be applied to any novel that is mutually agreed upon by program administrators and the student. An extensive choice of novels is provided on the Florida PASS website during registration, and will be shipped to the student along with course materials. Or, the student may choose an appropriate novel from another source if the novel is approved by Florida PASS.

### Sequence of Skills

#### UNIT 3 – Generic Novel Unit (optional)

1. Background:
  - learn more about a selected author
  - tell about the background of a novel as a literary form
  - understand the historical background for the novel
  - know the elements of the novel form
  - perform Internet research on an author
2. Vocabulary Development:
  - select vocabulary words
  - use selected vocabulary words in context
  - recognize and utilize new words in conversation and the media
3. Reading Comprehension:
  - know techniques for increasing reading comprehension
  - answer comprehension questions about the novel and characters
4. Literary/Visual Response:
  - identify the setting and themes
  - analyze characters and identify character traits
  - create a news story based on an incident from the novel
  - discuss physical attributes of setting and individuals
  - create a time line showing historic events during period of novel or comparison of different calendars
5. Listening/Speaking:
  - listen carefully, asking appropriate questions
  - speak clearly for a variety of purposes
  - deliver a speech defending one of the novel's characters
6. Writing Process:
  - write journal entries in response to prompts
  - complete creative writing assignments
  - write a news report based on an incident in the novel
  - support responses to questions with details from the novel



- write accounts of an experience using varied points of view
7. Career Connection:
- identify different career opportunities in the writing field
  - analyze positive and less desirable aspects of one career option

## Alternative Units for English 1-4

## Preparing for College Unit

### Scope of Course

This unit may be used on its own as a supplemental resource for students looking toward postsecondary education, or may be substituted for Unit 5: Nonfiction in any PASS Language Arts 9-12 course. The unit may only be substituted once per student, and is particularly appropriate for 11th or 12th grade.

This unit helps the student set goals when their plans for the future include higher education. Students receive guidance in preparing for SAT and ACT tests, selecting and applying to colleges, writing the necessary essays, and practicing for the college interview. It provides information on how to pay for college as well as sources for obtaining scholarships. The unit also offers study techniques needed for success in college and explains some differences between the high school and college experience.

### Sequence of Skills

#### UNIT 5 – Preparing for College (optional)

1. Setting Goals for College Success
2. High School Students Look to the Future
3. Paying for College
4. Test Taking Strategies
5. The Best Way for YOU to Study
6. Selecting a College
7. The College Essay
8. Filling Out College Applications
9. The College Interview
10. You and Your Parents
11. Internet Activities
12. College – A Different Culture

## Learning English Through Literature\*

*(\*not for credit)*

### Scope of Course

Learning English Through Literature develops and strengthens reading, writing, listening, speaking, viewing, and producing skills through the study of newspapers, poetry, stories, and the novel. A unit on basic language and grammar skills is also included. The course is geared toward the intermediate English language learner, who has some basic English skills. (\*This course is not for high school English credit, but for skill-building.)

### Sequence of Skills

#### UNIT 1 – Basic Skills

1. Alphabetizing/Using Guide Words
2. Parts of Speech/Forms of a Word
3. Choosing the Right Meaning of a Word
4. Pronunciation
5. Prefixes
6. Suffixes
7. Root Words
8. Reading Strategies: Survey, Question, Read, Recite
9. Writing Strategies/The Writing Process

#### UNIT 2 – The Newspaper

1. Introduction: Staff, Parts, Vocabulary
2. The News Article: 5W + H Questions
3. The Human Interest Story: Cause and Effect
4. The Business Article: Making Predictions
5. Graphics: Reading and Understanding Visual Clues, Charts and Graphs
6. Letters to the Editor: Fact vs. Opinion
7. The Political Cartoon: Analysis and Understanding Point of View
8. Sports Section: Understanding Text and Charts
9. The Movie Review: Making Judgments/Demonstrating Literary Elements
10. The Advice Column: Making Inferences/Expressing Opinions
11. Classified Advertisements: Asking Questions for Information/Writing Descriptions
12. Comics and Puzzles: Sequencing through Reading and Writing Activities
13. Writing a News Article
14. Grammar: Verb Forms
15. Extension Activities: Newspaper and Internet Use

#### UNIT 3 – Poetry

1. Reading Poems for Understanding, Enjoyment, and Personal Response
2. Increasing Vocabulary
3. The Lives of Selected Poets
4. Literary Elements of Poetry
5. Compare and Contrast: Two Poems

6. A Poem's Point of View
7. Writing an Organized Essay
8. Writing Original Poems
9. Using Correct English Conventions: Grammar, Spelling, Punctuation
10. Grammar: Adjectives and Adverbs

#### UNIT 4 – Story Genre

1. Reading and Understanding: Fables, Myths, Native American Stories, African-American Stories, Tall Tales, and Folk Tales from Various Cultures
2. Vocabulary of Genre and Stories
3. Literary Terms: Identification and Usage
4. Writing Original Fables and Myths
5. Writing a Compare/Contrast Essay
6. Retelling a Folk Tale from One's Culture
7. Grammar: Pronouns, Articles, Prepositions, Conjunctions, Interjections

#### UNIT 5 – The Novel

1. Reading for Understanding, Enjoyment, and Personal Response
2. Understanding Literary Elements Used in Novels
3. Reading Maps and Understanding Cultural Contexts
4. Comparing/Contrasting Two Characters
5. Making Predictions and Inferences
6. Observing and Understanding Sequence of an On-going Event
7. Reading Aloud with Expression, Correct Pronunciation, and Voice
8. Using Correct English Conventions: Grammar, Spelling, Pronunciation
9. Increasing Vocabulary
10. Grammar: Punctuation and Spelling Rules

## Creative Writing

Course No. 1009320

### Scope of Course

Creative Writing covers the full spectrum of writing genres ranging from short stories, novels, plays and poetry, to the various forms of essays and nonfiction. Students will learn and apply a broad variety of techniques to generate, edit, and evaluate their own literary efforts and those of others.

### Sequence of Skills

#### UNIT 1 – Fiction Part I: Short Stories

1. The Origins of Language
2. A Writer's Definition of Story
3. The Importance of Premise
4. The Story Triangle
5. Irony and Suspense
6. Character Types
7. Point of View
8. Scene Keys
9. Characterization
10. Dialogue
11. Writing Your Story
12. Revising, Editing, and Revision

#### UNIT 2 – Fiction Part II: The Novel and Drama

1. Brainstorming
2. Description: Using Nouns and Verbs Effectively
3. Description: Using Adjectives and Adverbs Effectively
4. Descriptions: General Tips
5. Useful Punctuation for the Creative Writer
6. Planning Your Story
7. Writing a Descriptive Passage
8. Flashback and Foreshadowing
9. Character Development and Characterization Techniques
10. Style Techniques
11. Staging and special Format Rules for Playwriting
12. Writing a Scene
13. Writing Careers and Goals / Using a Writer's Rubric

#### UNIT 3 – Poetry

1. Types of Poetry and Reading Tips
2. Voice and Tone / Tips for Writing
3. Imagery and Symbolism
4. Figurative Language
5. The Star Scramble
6. Rhyme and Rhyme Schemes

7. Repetition, Refrain, Alliteration, and Onomatopoeia
8. Rhyme Devices & Parody
9. Rhythm and Meter
10. Blank Verse and Haiku
11. Free Verse
12. The Sonnet, Elegy, and Requiem
13. Narrative Poetry & Ballads

#### UNIT 4 – Nonfiction: Part 1

1. Introduction to Nonfiction
2. Persuasive Writing
3. Expressive Writing
4. Literary Writing
5. Informative Writing
6. Scientific Writing
7. Exploratory Writing
8. Descriptive Writing
9. Observation and Experience
10. Revision and Editing
11. Autobiographical Essay
12. Final Revision and Editing

#### UNIT 5 – Nonfiction: Part 2

1. Creative Reporting
2. Report Analysis
3. Cause and Effect Analysis
4. Argument Analysis
5. Opinion and Claims
6. Critical Review
7. Crusading Evaluations
8. Position Papers
9. Credibility, Preliminary Research and Refining the Subject
10. Thesis Statements and Presenting Findings
11. Research and Sources
12. The First Draft
13. Revision and Editing

## Algebra 1A

Course No. 1200310

### Scope of Course

This course is divided into two semesters of study (A & B) comprised of five units each. The first-semester (A) is a study of algebraic concepts including measurement and mathematical reasoning; algebraic expressions; factoring; and equations.

### Sequence of Skills

#### UNIT 1 – Foundations

1. Real Numbers
2. Sets
3. Variables and Axioms
4. Real Number Properties
5. Properties of Real Numbers
6. Density Property of Real Numbers
7. Addition of Signed (+/-) Numbers (Integers)
8. Subtraction of Signed (+/-) Numbers (Integers)
9. Multiplication and Division of Signed Numbers
10. Fractions and Number Sense
11. Operations with Fractions: prepare for operations with algebraic fractions
12. Decimals: become comfortable with decimals and decimal operations
13. Scientific Notation and Percent

#### UNIT 2 – Measurement and Mathematical Reasoning

1. Properties of Real Numbers – Order and the Number Line
2. Operations with Exponents
3. Radicals
4. Like Radicals
5. Absolute Value
6. Order of Operations
7. Measurement-Conversions
8. Nonstandard Measurement and Measurement as Problem Solving
9. Measurement—Estimation and Accuracy
10. Mathematical Reasoning with Negatives
11. Mathematical Reasoning with Venn Diagrams and Counter-Examples
12. Mathematical Reasoning—“And”
13. Mathematical Reasoning—“Or”
14. Mathematical Reasoning—Induction

#### UNIT 3 – Algebraic Expressions

1. Writing Algebraic Expressions
2. Evaluating Algebraic Expressions with One Variable
3. Evaluating Algebraic Expressions with More than One Variable
4. Polynomials
5. Combining Like Terms

6. Adding and Subtracting Polynomials
7. Simplifying Algebraic Expressions with Exponents
8. More on Algebraic Expressions with Exponents
9. Multiplying Polynomials
10. Multiplying a Binomial Times a Binomial
11. Special Binomial Products
12. Multiplication with Polynomials
13. Dividing a Polynomial by a Monomial
14. Dividing a Polynomial by a Binomial

#### UNIT 4 – Factoring

1. Factoring—Common Factors
2. Greatest Common Factor
3. The Difference of Two Squares
4. Factoring Trinomials
5. Factoring Trinomials—Advanced
6. Factoring by Grouping
7. Factoring the Sum and Difference of Two Cubes
8. Factoring Completely Using Multiple Techniques
9. Reducing Algebraic Fractions Using Factoring
10. Addition and Subtraction of Algebraic Fractions with Common Denominators
11. Addition and Subtraction of Algebraic Fractions without Common Denominators
12. Multiplying and Dividing Algebraic Fractions

#### UNIT 5 – Equations

1. Equations
2. One Step Equations—Addition and Subtraction
3. One Step Equations—Multiplication and Division
4. Two Step Equations
5. Multiple Step Equations
6. Writing Equations
7. Word Problems with One Variable (Number Relations, Consecutive Integer, and Average Problems)
8. Word Problems with One Variable (Coin Problems and Interest Problems)
9. Word Problems with One Variable (Perimeter and Area)
10. Rational Algebraic Expressions
11. Distance-Rate-Time Problems
12. Work Problems
13. Percent Problems
14. Literal Equations



## Algebra 1B

Course No. 1200310

### Scope of Course

This course is divided into two semesters of study (A & B) comprised of five units each. The second semester (B) is a study of linear functions; inequalities, absolute value, and radicals; quadratic functions, modeling exponential growth and decay; systems of equations and inequalities; and statistics.

### Sequence of Skills

#### UNIT 1 – Linear Functions

1. Functions and Relations
2. Functional Notation
3. Graphing
4. Linear Functions
5. Slope of a Line
6. Intercepts
7. Applications of Slopes and Intercepts
8. Effects of Change of Slope and Intercepts
9. Parallel and Perpendicular Lines
10. Writing Linear Equations
11. Horizontal and Vertical Lines
12. More Special Linear Equations and Inverses
13. Applications

#### UNIT 2 – Inequalities, Absolute Value, and Radicals

1. A Visual Look at Linear Functions
2. Graphing and Writing Inequalities
3. The Algebra of Inequalities
4. Linear Inequalities in Two Variables
5. Writing Linear Equations in Two Variables
6. Absolute Value Equations
7. Absolute Value Inequalities with One Variable
8. Simplifying Radicals with Variables
9. Multiplying and Dividing Radical Expressions with Variables
10. Addition and Subtraction of Radicals with Variables
11. Rational Expressions with Radical Monomial Denominators

#### UNIT 3 – Quadratic Functions

1. Conic Sections
2. Quadratic functions -- The Basics
3. Solving Quadratic Equations-Pure Quadratics
4. Solving Quadratic Equations-By Factoring
5. Quadratic Functions and a Graphing Calculator
6. The Quadratic Formula

7. The Discriminant and the Nature of Roots
8. The Vertex of a Parabola
9. Variations of the Basic Quadratic Functions
10. Writing the Equations of Quadratic Functions
11. How Many Parabolas?
12. Maximum and Minimum Problems
13. The Distance and Midpoint Formulas

#### UNIT 4 – Systems of Equations and Inequalities

1. Systems of Linear Equations-Introduction
2. How Many Solutions?
3. Experiments with Systems of Equations
4. Solve Two Variable Systems of Equation-Substitution
5. Solve Two Variable Systems of Equations-Addition (Elimination) Method
6. Choosing a Method
7. Constraints
8. Two Variable Systems of Equations -- Applications
9. Three Variable systems of Equations – Solve with Substitution
10. Three Variable Systems of Equations Applications
11. Systems of Equations – Linear/Quadratic
12. Systems of Equations – Linear/Absolute Value
13. Systems of Linear Inequalities

#### UNIT 5 – Probability and Statistics

1. Statistics – Organizing Data
2. Bar Graphs
3. Line Graphs and Pictographs
4. Circle Graphs
5. Mean and Median
6. Frequency Distributions
7. Box and Whisker Plots
8. Vocabulary – Algebra 1A
9. Vocabulary – Algebra 1B
10. Translating and Interpreting
11. Exponents and Radicals Overview
12. Equations and Inequalities Overview
13. Quadratic Overview with Factoring
14. Absolute Value Overview

## Geometry A

Course No. 1206310

### Scope of Course

Plane and solid geometry are examined visually, analytically, and logically. Constructions are made with a compass and straight edge and by folding paper. Geometric concepts beginning with basic points, lines, planes, angles, and rays are developed along with properties of parallel and perpendicular lines as a basis for the study of polygons. Triangles and triangle properties are studied. Similarities and differences between polygons are addressed using a hierarchical approach. Area, perimeter, and volume connect plane and solid geometry. Students are taught to use definitions, axioms, and postulates to justify conjectures.

The focus and goals of the geometry sequence are concept based and designed to help students think logically and analytically. Making sense of the world through geometry is a priority.

### Sequence of Skills

#### UNIT 1 – Foundations

1. Introduction to Geometry
2. Points, Lines, and Planes
3. Line Segments, Rays, and Angles
4. Plane Geometry
5. Polygons
6. Solid Geometry
7. Sketches and Intersections of Planes with Solids
8. Ominoes
9. Nets for Cubes
10. Nets of other Three-Dimensional Figures
11. Visualizing Three-Dimensional Objects
12. Perspective
13. Sketch Geometric Models
14. Proofs

#### UNIT 2 – Congruent Triangle Theorems & Constructions

1. Proofs
2. Side-Angle-Side Theorem
3. Angle-Side-Angle Theorem
4. Isosceles Triangle Theorems
5. Converse of the Isosceles Triangle Theorem
6. Side-Side-Side Theorem
7. Introduction to Constructions
8. Triangle Constructions
9. Conditions That Are or Are Not Sufficient To Prove Triangles Congruent
10. Perpendicular Bisector Theorem
11. More Constructions
12. Right Triangle Theorem I
13. Right Triangle Theorem II

**UNIT 3 – Parallel, Perpendicular, & Angle Theorems**

1. Exterior Angles
2. Lines Perpendicular to the Same Line
3. Lines Perpendicular to Parallel Lines and Non-Euclidean Geometries
4. Transversals and Parallel Lines
5. Interior Angles and Corresponding Angle Theorems
6. The Sum of the Angles in a Triangle
7. Equal Segments Theorem
8. Points on the Bisector of an Angle
9. Angle Comparisons
10. Mid-Segments
11. The Median in a Right Triangle
12. Triangles with Unequal Sides
13. Triangles with Unequal Angles
14. Comparing Triangles

**UNIT 4 – Perimeter, Area, and Volume**

1. Perimeter
2. Area
3. Connection Between Perimeter and Area
4. Area of Parallelograms
5. Area of Triangles
6. Area of Trapezoids
7. Area of Regular Polygons
8. Surface Area of Prisms
9. Surface Area of Cylinders and Spheres
10. Surface Area of Pyramids and Cones
11. Volume of Prisms
12. Volume of Pyramids
13. Volume of Cylinders, Cones, and Spheres
14. Effects of Changing Dimensions

**UNIT 5 – Properties of Common Geometric Shapes**

1. Hierarchy of Polygons and How This Relates to Their Properties
2. Properties of Special Parallelograms
3. Sufficient Conditions for a Parallelogram
4. Parallelogram Constructions
5. Sufficient Conditions for Rectangles, Rhombi, and Squares
6. Isosceles Trapezoids
7. Constructing Trapezoids
8. Trigonometric Ratios
9. Right Triangle Applications and Properties of Special Right Triangles
10. Identities
11. Law of Cosines
12. Law of Sines

## Geometry B

Course No. 1206310

### Scope of Course

Students study and analyze circles and arcs. Tangents, secants, and chords and the angles they form are examined. Concurrent lines are found in triangles while studying altitudes, angle bisectors, and medians. Regular inscribed and circumscribed polygons and similarities and proportions are some of the other concepts addressed. Connections are drawn between geometry, art, and algebra. Logic is developed using Venn diagrams and truth tables. Motion geometry is studied using grid paper, a compass, and an image reflector. Students are taught to think logically and to justify their conjectures using a variety of types of proofs.

The focus and goals of the geometry sequence are concept based and designed to help students think logically and analytically. Making sense of the world through geometry is a priority.

### Sequence of Skills

#### UNIT 1 – Circles

1. Circles – Related Definitions and Postulates
2. Three Point Circles
3. Constructing a Circle with Three Points
4. Chords and Arcs
5. Diameters and Other Chords
6. Intersecting Circles
7. Chords Equidistant from the Center
8. Unequal Minor Arcs
9. Unequal Chords
10. Tangents and Radii
11. Tangents from the Same Outside Point
12. Tangent Circles
13. Constructing Tangents to a Circle
14. Parallel Lines and Circles

#### UNIT 2 – Angles, Arcs, Concurrent Lines, Similarities and Proportions

1. Inscribed Angles
2. Angles Formed by a Tangent and a Chord
3. Angles Formed by Two Intersecting Chords
4. Angles Formed by Secants and Tangents
5. Concurrent Lines
6. Regular Inscribed Polygons
7. Regular Circumscribed Polygons
8. Ratio and Proportion and Parallel Line Proportionality
9. Proportionality and Parallelism
10. Similar Triangles
11. Bisectors of Interior and Exterior Angles of Triangles and Proportionality
12. Right Triangles and Similarity
13. Circles and Proportionality

**UNIT 3 – Logic**

1. Statements and Their Opposites
2. Conjunctions
3. Disjunctions
4. Truth Tables – Conditional Statements
5. The Converse of a Statement
6. Biconditionals
7. The Inverse of a Statement
8. Contrapositives and Logically Equivalent Statements
9. Identities
10. Tautologies, Contradictions, and Contingencies
11. Quantifiers
12. Valid Arguments
13. Logic Puzzles – Single Matching
14. Logic Puzzles – Complex Matching

**UNIT 4 – Coordinate Geometry**

1. Analytic Geometry
2. Using Coordinate in Proofs
3. Coordinate Geometry – Three Dimensions
4. Three-Dimensional Distances, Prisms, and Pyramids
5. The Locus Problem
6. Locus of Points in a Plane
7. Intersection of Loci
8. Coordinate Geometry and the Locus of First-Degree Equations
9. Coordinate Geometry and the Locus of Circles
10. Locus and an Ellipse
11. Locus and a Parabola
12. Locus and a Hyperbola
13. Conic Sections Identified and Shifted
14. Vectors

**UNIT 5 – Motion Geometry**

1. Transformations
2. Translations
3. Reflections
4. Rotations
5. Combinations of Transformations
6. Identifying Transformations
7. Size Transformations
8. Symmetry
9. Tessellations with Polygons
10. Escher-like Tessellations
11. Fractals and Chaos

## Algebra 2A

Course No. 1200330

### Scope of Course

This course is divided into two semesters of study (A & B) comprised of five units each. Each unit teaches concepts and strategies recommended for intermediate algebra students. The first half of the course (A) addresses linear equations and functions, systems of linear equations and inequalities, quadratic functions, polynomial functions and their graphs, and power functions and inverses.

### Sequence of Skills

#### UNIT 1 – Linear Equations and Functions

1. Perform operations with real numbers
2. Simplify and evaluate algebraic expressions.
3. Use linear equations to solve problems
4. Rewrite equations and formulas to solve for a given variable
5. Apply formulas in problem solving
6. Analyze problems and write equations to solve them
7. Determine when a relation is a function
8. Graph and evaluate linear functions
9. Find the slope of a line given its graph or two points on the line
10. Classify pairs of lines as parallel, perpendicular, or neither
11. Understand slope as a rate of change
12. Graph an equation using slope-intercept form
13. Graph an equation that is in standard form
14. Write an equation of a line given its slope and  $y$ -intercept, the slope and a point on the line, or two points on the line
15. Use an algebraic model to make a prediction given a set of data
16. Graph piecewise functions
17. Solve absolute value equations
18. Graph absolute value functions

#### UNIT 2 – Systems of Linear Equations and Inequalities

1. Solve linear inequalities
2. Solve absolute value inequalities in one variable
3. Graph linear inequalities
4. Write linear inequalities
5. Solve a linear system graphically
6. Determine whether a system has zero, one, or many solutions by observing the graph
7. Use the linear combination method
8. Use the substitution method
9. Determine algebraically whether a system has zero, one, or many solutions
10. Apply linear systems to realistic situations
11. Graph a system of two inequalities in two variables
12. Graph a system of three inequalities in two variables
13. Describe the difference between bounded and unbounded regions

14. Find minimum and maximum values of an objective function
15. Use linear programming to solve problems in realistic situations
16. Identify the octant in which an ordered triple is located
17. Locate an ordered triple in three-dimensional space
18. Write the ordered triple that corresponds to a given point in three-dimensional space
19. Use the linear combination method to solve a system in three variables
20. Determine whether a system has zero, one, or many solutions
21. Apply systems in three variables to realistic situations
22. State the dimensions of a given matrix and name its entries
23. Identify row, column, square, and zero matrices
24. Add and subtract matrices
25. Multiply a matrix by a scalar
26. Use matrices to represent realistic situations
27. Recognize when it is possible to multiply two matrices
28. Multiply two matrices
29. Verify the properties of matrix multiplication
30. Use matrix multiplication in realistic situations
31. Evaluate determinants of  $2 \times 2$  and  $3 \times 3$  matrices
32. Use the determinant of a matrix to find the area of a triangle on the coordinate plane
33. Convert a system of linear equations in two variables into a matrix equation
34. Solve a system of linear equations in two variable using a graphing calculator
35. Apply matrices to solve systems in two variables in realistic situations using a graphing calculator
36. Convert a system of linear equations in three or more variable into a matrix equation
37. Solve a system of linear equations in three of more variables using a graphing calculator
38. Apply matrices to solve systems in three or more variables in realistic situations using a graphing calculator

### UNIT 3 – Quadratic Functions

1. Recognize that the graph of a quadratic function is a parabola
2. Identify the vertex and the axis of symmetry for a parabola by observing its graph
3. Determine whether a quadratic function is written in standard form, vertex form, or intercept form
4. Graph a quadratic function in standard form, vertex form, or intercept form
5. Explore some realistic applications of quadratic functions
6. Identify monomials, binomials, and trinomials, and recognize that these are all polynomials
7. Factor a trinomial of the form  $x^2 + bx + c$  or  $ax^2 + bx + c$
8. Recognize and factor a difference of two squares or a perfect square trinomial
9. Check to see if the terms of a given polynomial have a common monomial factor
10. Solve quadratic equations by factoring
11. Solve realistic problems using quadratic equations
12. Recognize that solutions, zeros,  $x$ -intercepts, and roots are all related
13. Discover that the maximum or minimum value of a quadratic function is the average of its zeros



14. Find the zeros of a quadratic function by factoring and writing the function in intercept form
15. Find the zeros of a quadratic function using a graphing calculator
16. Understand and use the properties of square roots
17. Apply the properties of square roots to solving quadratic equations
18. Verify the solutions of a quadratic equation both algebraically and by using a graphing calculator
19. Use quadratic functions to model falling objects
20. Discover that some parabolas do not cross the  $x$ -axis and therefore have no real solutions
21. Understand the definitions of an imaginary number, complex number, and pure imaginary number
22. Solve quadratic equations with imaginary solutions
23. Add and subtract complex numbers
24. Multiply complex numbers
25. Recognize complex conjugates and discover that the product of complex numbers is always a real number
26. Divide complex numbers
27. Explore the powers of  $i$  and discover a pattern
28. Simulate the process of completing the square using algebra tiles or sketches
29. Complete a perfect square trinomial and write it as the square of a binomial
30. Solve quadratic equations by completing the square
31. Write the vertex form of a quadratic function by completing the square, given the standard form
32. Find the maximum value of a quadratic function by completing the square
33. Given a graph of a quadratic function, select an equation in vertex form that represents the graph
34. Determine whether a quadratic function has two real solutions, one real solution, or two imaginary solutions by examining its graph
35. Apply the quadratic formula to solve quadratic equations with two real solutions, one real solution, or two imaginary solutions
36. Identify the discriminant of a quadratic equation and use it to determine the number and nature of the functions' solutions
37. Choose the most appropriate method for solving a quadratic equation: factoring, square roots, quadratic formula, or graphing calculator
38. Apply quadratic equations to realistic solutions
39. Review graphs of linear inequalities
40. Given a quadratic inequality and its graph, choose several points inside and outside the parabola to determine which ones satisfy the inequality
41. Match a quadratic inequality with its graph
42. Graph a quadratic inequality
43. Explore realistic applications of quadratic inequalities
44. Graph a system of quadratic inequalities
45. Solve a quadratic inequality by graphing

46. Solve a quadratic inequality algebraically
47. Explore some more realistic applications of quadratic inequalities
48. Write a quadratic function in vertex form, intercept form, and standard form given information about its graph
49. Produce a quadratic function that models a given set of data
50. Find the best-fitting quadratic model for a set of data using a graphing calculator

#### UNIT 4 – Polynomial Functions and Their Graphs

1. Evaluate and simplify expressions with exponents
2. Apply scientific notation to solve realistic problems
3. Identify and evaluate polynomial functions
4. Use synthetic substitution
5. Graph a polynomial function
6. Determine the end behavior of a graph
7. Add and subtract polynomials vertically and horizontally
8. Multiply polynomials
9. Apply special product patterns
10. Factor polynomial expressions using the sum or difference of cubes
11. Factor polynomials by grouping
12. Apply factoring to solve polynomial equations
13. Solve polynomial equations in realistic situations
14. Divide polynomials using long division
15. Divide polynomials using synthetic division
16. Find rational zeros of polynomial functions
17. Find rational zeros of polynomial functions with the assistance of a graphing calculator
18. State the number of solutions or zeros of a polynomial function
19. Write polynomial functions using zeros
20. Solve realistic problems using polynomial models
21. Graph a polynomial function using  $x$ -intercepts
22. Analyze the graph of a polynomial function

#### UNIT 5 – Power Functions and Inverses

1. Identify the index of a given radical
2. Evaluate the  $n$ th root of real numbers using radical notation
3. Identify the number of real roots of a given real number
4. Rewrite the  $n$ th roots using rational exponential notation
5. Evaluate expressions with rational exponents
6. Solve an equation using a  $n$ th root
7. Use  $n$ th roots and rational exponents to solve realistic problems
8. Simplify expressions using the properties of rational exponents
9. Simplify expressions using the properties of radicals
10. Write radicals in simplest form
11. Add and subtract roots and radicals
12. Identify a power function

13. Graph a power function using both paper/pencil and the graphing calculator
14. Add and subtract two functions
15. Multiply and divide two functions
16. Use function operations in a realistic situation
17. Find the composition of two functions
18. Find the inverse of a linear function numerically and algebraically
19. Graph a linear function and its inverse
20. Find the inverse of a nonlinear function
21. Graph a nonlinear function and its inverse
22. Graph the inverse of a function using the graphing calculator
23. Determine if two functions are inverses using the graphing calculator
24. Graph a square root function
25. Investigate the effect of changing  $a$  in a function of the form  $y = a^2x$  using a graphing calculator
26. Graph a cube root function
27. Investigate the effect of changing  $a$  in a function  $y = a^3x$  using a graphing calculator
28. Use a radical function in a realistic situation
29. Solve a simple radical equation
30. Solve an equation with rational exponents
31. Solve an equation with one radical
32. Solve an equation with two radicals
33. Solve an equation with extraneous solution(s)

## Algebra 2B

Course No. 1200330

## Scope of Course

This course is divided into two semesters of study (A & B) comprised of five units each. Each unit teaches concepts and strategies recommended for intermediate algebra students. The second half of the course (B) addresses exponential and logarithmic functions, rational functions and their graphs, quadratic relations and conic sections, fundamentals of trigonometry, and probability and statistics.

## Sequence of Skills

UNIT 1 – Exponential and Logarithmic Functions

1. Investigate and compare the graphs of exponential functions
2. Learn the definitions of “exponential function” and “asymptote”
3. Graph exponential functions
4. State the domain and range of an exponential function
5. Differentiate between a “percent increase” and a “growth factor”
6. Write an equation that models an exponential function
7. Graph a model of an exponential function
8. Make predictions involving exponential functions
9. Understand compound interest and find the balance of an account at a given time
10. Differentiate between an exponential growth function and an exponential decay function
11. Graph exponential decay functions
12. Understand the meaning of “decay factor”
13. Use exponential decay functions in realistic situations
14. Discover the value of  $e$
15. Simplify expressions involving  $e$
16. Use a calculator to evaluate expressions involving  $e$
17. Graph functions involving the number  $e$
18. State the domain and range of a function involving  $e$
19. Use the equations  $A = Prt$  in realistic situations
20. Examine the difference between common logarithms and natural logarithms
21. Evaluate common and natural logarithms
22. Write an exponential equation in logarithmic form
23. Write a logarithmic equation in exponential form
24. Graph a logarithmic function
25. Investigate the effect of changing the  $b$ ,  $h$ , or  $k$  in a function of the form  $y = \log_b(x - h) + k$
26. Use logarithms in a realistic situation
27. Discover the properties of logarithms through investigations
28. Use the product, quotient, and power properties of logarithms
29. Expand or condense a logarithmic expression
30. Evaluate a logarithmic expression using the change-of-base formula
31. Solve an exponential equation by equating exponents
32. Solve an exponential equation by taking the logarithm of each side
33. Solve a logarithmic equation by rewriting it as an exponential equation
34. Solve a logarithmic equation involving logarithms with the same base

35. Solve a logarithmic equation with extraneous solutions
36. Write the equation of an exponential function whose graph passes through two given points
37. Decide whether an exponential function is a good model for a given set of data
38. Use exponential regression on a graphing calculator
39. Use power regression on a graphing calculator
40. Write the equation of a power function whose graph passes through two given points
41. Decide whether a power function is a good model for a given set of data
42. Recognize situations for which a logistic growth function is a good model
43. Use a graphing calculator to graph logistic growth functions and describe their shape
44. Evaluate a logistic growth function for a given value
45. Sketch the graph of a logistic growth function by using the asymptotes, the y-intercept, and the point of maximum growth
46. Solve a logistic growth equation
47. Examine the graph of a logistic growth function and describe what it reveals about the situation modeled by the graph
48. Use logistic regression on a graphing calculator to formulate a logistic growth model

## UNIT 2 – Rational Functions and Their Graphs

1. Classify an equation as having direct variation, inverse variation, or neither
2. Write an inverse variation equation
3. Write an algebraic model of inverse variation to solve problems in realistic situations
4. Write a joint variation equation
5. Write a combined variation equation
6. Write an algebraic model of joint variation to solve problems in realistic situations
7. State the domain and range of a rational function
8. Graph a rational function
9. Investigate the effect of changing the numerator or denominator of a rational function
10. Write an algebraic model of a rational function to solve problems in realistic situations
11. State the domain and range of a given function
12. Graph a given function
13. Find a local minimum to solve problems in realistic situations
14. Simplify a rational expression
15. Multiply a rational expression containing monomials
16. Multiply a rational expression containing polynomials
17. Multiply a rational expression and a polynomial
18. Write a rational expression to solve problems in realistic situations
19. Divide rational expressions
20. Divide a rational expression by a polynomial
21. Combine multiplication and division to simplify rational expressions
22. Write a rational expression to solve problems in realistic situations
23. Verify numerically the results of rational expressions using a table (graphing calculator)
24. Verify graphically the results of rational expressions (graphing calculator)
25. Add rational expressions with like denominators

26. Add rational expressions with unlike denominators
27. Use addition of rational expressions to solve problems in realistic situations
28. Subtract rational expressions with like denominators
29. Subtract rational expressions with unlike denominators
30. Use subtraction of rational expressions to solve problems in realistic situations
31. Simplify a complex fraction
32. Write an equation involving complex fractions to solve problems in realistic situations
33. Determine whether a given value is a solution of a rational equation
34. Simplify and solve rational equations
35. Simplify and solve rational equations with two solutions.
36. Verify a solution of a rational equation.
37. Identify an extraneous solution.
38. Use the graph of a rational expression to determine if a solution is extraneous.
39. Solve a rational equation by cross multiplying
40. Solve a rational equation by using the least common denominator or by cross multiplying
41. Prove the results are solutions to a given rational equation
42. Identify extraneous solutions
43. Write an algebraic model of a rational expression
44. Use an algebraic model of a rational expression to solve problems in realistic situations

### UNIT 3 – Quadratic Relations and Conic Sections

1. Use the distance formula to find the distance between two points
2. Use the distance formula to classify a triangle as scalene, isosceles, or equilateral
3. Find the midpoint of a line segment
4. Apply the midpoint formula to write an equation for the line that is a perpendicular bisector of a given line segment
5. Use the distance formula in a realistic situation
6. Graph a parabola
7. Identify the focus and directrix of a parabola
8. Write an equation for a parabola that opens up or down
9. Use parabolas in realistic situations
10. Write an equation of a circle in standard form given the center and radius
11. Identify the center and radius of a circle
12. Graph an equation of a circle
13. Write an equation of a circle in standard form given a point on the circle and the center
14. Write an equation of the line that is tangent to a circle at a given point
15. Use circles in realistic situations
16. Identify the vertices, co-vertices, and foci of an ellipse
17. Graph an equation of an ellipse
18. Write an equation of an ellipse in standard form given the center, vertex, and co-vertex
19. Write an equation of an ellipse in standard form given the center, vertex, and focus
20. Use ellipses in realistic situations
21. Graph an equation of a hyperbola

22. Write an equation of a hyperbola
23. Use a hyperbola in a realistic situation
24. Write an equation of a translated parabola, circle, ellipse, or hyperbola
25. Classify a conic section as a circle, parabola, ellipse, or hyperbola, given its equation
26. Graph a conic section
27. Solve a quadratic system by substitution
28. Solve a quadratic system by linear combination
29. Solve a system of quadratic models

#### UNIT 4 – Fundamentals of Trigonometry

1. Write the ratios of trigonometric functions
2. Evaluate trigonometric functions
3. Use trigonometry to find the length of a side of a right triangle
4. Use trigonometric functions to solve problems in realistic situations
5. Draw angles in standard position
6. Identify the quadrant in which the terminal side of an angle lies
7. Find co-terminal angles
8. Convert between radian and degree measure
9. Find the arc length and area of a given sector
10. Evaluate a trigonometric function, given a point on the terminal side of an angle
11. Find a reference angle for a given angle
12. Evaluate trigonometric functions using reference angles
13. Evaluate the inverse of a trigonometric function
14. Use a trigonometric inverse to find the measure of an angle in a right triangle
15. Write and solve a trigonometric equation
16. Use inverse trigonometric functions to solve problems in realistic situations
17. Write and solve an equation using the law of sines to find the measure of a side or an angle in a triangle
18. Use the sine function to find the area of a triangle
19. Apply the sine function to solve problems in realistic situations
20. Write and solve an equation using the law of cosines to find the measure of a side or an angle in a triangle
21. Use Heron's formula to find the area of a triangle
22. Apply the law of cosines to solve problems in realistic situations
23. Graph parametric equations
24. State the domain for parametric equations
25. Write parametric equations to solve projectile problems in realistic situations
26. Identify the period and amplitude of sine and cosine functions
27. Identify the intercepts, maximum, and minimum of sine and cosine functions
28. Graph sine functions
29. Graph cosine functions
30. Identify the intercepts, asymptotes, and halfway points of tangent functions
31. Graph tangent functions

32. Graph translations of sine, cosine, and tangent functions
33. Graph reflections of sine, cosine, and tangent functions
34. Use a combination of a translation and a reflection to graph a sine, cosine, or tangent function
35. Find values of trigonometric functions using trigonometric identities
36. Simplify trigonometric expressions using trigonometric identities
37. Verify trigonometric identities
38. Solve a trigonometric equation in a given interval
39. Apply factoring to solve a trigonometric equation
40. Use the quadratic formula to solve trigonometric equations
41. Identify an extraneous solution of a trigonometric equation
42. Write a trigonometric function for a sinusoid
43. Use given data to graph a sinusoid
44. Apply sinusoidal regression to graph a model of data on a graphing calculator
45. Use the sum or difference of angles to simplify trigonometric expressions
46. Use the sum or difference of angles to evaluate trigonometric expressions
47. Use the double- and half-angle formulas to evaluate trigonometric expressions
48. Use the double- and half-angle formulas to simplify trigonometric expressions
49. Use the double- and half-angle formulas to verify a trigonometric identity
50. Use the double- and half-angle formulas to solve a trigonometric equation

#### UNIT 5 – Probability and Statistics

1. Use measures of central tendency and measures of variance to describe data sets
2. Use box-and-whisker plots and histograms to represent data graphically
3. Use the graphing calculator to find measures of central tendency
4. Use the graphing calculator to draw a histogram or box and whisker plot
5. Use the fundamental counting principle to count the number of ways an event can occur
6. Use permutations to count the number of ways an event can occur
7. Use combinations to count the number of ways an event can occur
8. Solve realistic problems using combinations
9. Find the theoretical probability that an event will occur
10. Use permutations or combinations to find the probability that an event will occur
11. Find the experimental probability of an event occurring
12. Use geometric probabilities to find the probability that a length, area, or volume could occur in a given situation
13. Find the probability of mutually exclusive events
14. Find the probability of compound events
15. Use the intersection of two sets to find the probability of an event
16. Use complements to find the probability of an event
17. Use complements in realistic situations
18. Find the probability of two or three independent events
19. Compare dependent and independent events
20. Find the probability of dependent events



21. Use a tree diagram to find conditional probabilities
22. Identify probability experiments that are binomial experiments
23. Find the binomial probability of an event
24. Construct a histogram, given a binomial distribution
25. Given a normal distribution, calculate the probability that an event will occur
26. Use a normal distribution to solve a realistic situation
27. Interpret the histogram of a binomial distribution

## Personal Finance\*

(\*not for credit)

(Available in English and Spanish)

### Scope of Course

This course could also be called consumer math. It is a course about making decisions and solving problems. Studying math skills and money handling as they relate to the responsibilities faced by adults in the working world will help students analyze choices and improve their decision-making ability. This course will help students develop skills in money management as they apply knowledge of mathematics to real-life situations such as calculating wages, developing a budget, using credit, and planning to rent or buy a home. It will help them become more confident in using math skills to make personal decisions.

### Sequence of Skills

#### UNIT 1 – Earnings and Income Tax

1. Introduction to various methods of being paid for work done
2. Calculate weekly wages
3. Review decimal point placement when multiplying decimals
4. Determining the number of hours worked
5. Calculate overtime earnings based on regular rate of pay
6. Calculate piecework earnings
7. Learn about being paid on commission: what it is, how to compute, what kinds of jobs are paid this way, and advantages and disadvantages of this form of payment
8. Salary and combinations: pay periods and computing straight salary or combined with commissions
9. Payroll deductions
10. Reading earnings statements
11. Calculating net pay
12. Withholding allowances: filling out a W-4 form
13. Calculate city and state income taxes as a portion of earnings
14. Calculate FICA as a portion of earnings for regular and self-employment
15. Federal income tax
16. Fringe benefits

#### UNIT 2 – Dealing with Money

1. Review adding, subtracting, and multiplying money amounts
2. Define and practice using terms associated with money
3. Find the cost of goods and services using a price list
4. Add and/or multiply the cost of goods and services to find the total cost of a purchase
5. Calculate city and state sales taxes on a purchase
6. Calculate change according to the cost and payment
7. Make change by addition from cost of item to the amount of payment
8. Fill out sample money orders
9. Calculate the fees for purchasing money orders
10. Practice using a signature card for a checking account

11. Define and use terms related to checking and savings accounts
12. Fill out deposit slips to deposit money in a checking account
13. Endorse checks
14. Fill out checks
15. Protecting your checking account
16. Advantages and disadvantages of debit cards
17. Calculate ATM withdrawals, including cash and fees
18. Use of a register to track payments, withdrawals, and deposits for a checking account
19. Practice using an imaginary checking account for one month
20. Reconcile a checking account using a bank statement and check register
21. Savings accounts and simple interest

### UNIT 3 – Budgeting and Credit

1. Calculate monthly income
2. Look at common types of monthly expenses
3. Explain the difference between a need and a want
4. Explain the difference between the two main types of expenses
5. Calculate fixed expenses and flexible expenses
6. Create a monthly budget
7. Use a monthly budget
8. Track actual expenses and compare to the budgeted amount
9. Track savings using a monthly budget summary
10. Learn to distinguish between necessary and careless or wasteful spending
11. Learn how much money to save in an emergency fund
12. Look at ways that unplanned expenses can add up and cause financial problems if not anticipated
13. Learn about the three main types of credit
14. Calculate the number of payments or length of payment plan for installment credit
15. Learn about credit limits with revolving credit
16. Calculate simple interest for a loan
17. Examine how the length of a loan affects how much interest the borrower pays
18. Calculate fees and minimum payment amounts for credit cards
19. Learn to read a credit report
20. Calculate total money owed to lenders
21. Develop a plan to repay loans in order of priority
22. Calculate a debt limit of 20% of yearly net income
23. Calculate a limit on debt payments of 10% of monthly net income
24. Calculate total assets and total liabilities
25. Calculate net worth

### UNIT 4 – Housing Costs

1. Calculate move-in costs for renting
2. Calculate monthly cost of rental housing
3. Learn to read and understand a lease

4. Find the cost and coverage of renters' insurance
5. Compare the monthly cost of renting versus buying
6. Calculate the down payment for a house as a percentage of the total cost of the house
7. Find the amount of time needed to save a down payment
8. Learn about private mortgage insurance
9. Calculate the interest repaid on a mortgage, depending on the length of the loan and the interest rate
10. Calculate property tax on the assessed value of real estate
11. Find the monthly cost of homeowners' insurance based on the annual premium
12. Find the total annual cost of insurance with the basic and additional coverage
13. Calculate a monthly house payment including the costs of property tax and homeowners' insurance
14. Calculate the breakdown of charges on a water bill
15. Learn to read a water meter
16. Learn to read a gas meter
17. Calculate the charges for natural gas by unit
18. Figure the equal monthly payment for natural gas
19. Learn to read an electric meter
20. Calculate the charges for electricity by unit
21. Calculate the energy consumption of some household appliances
22. Calculate the cost of local and long distance service, depending on the fees and cost per minute for calling
23. Calculate the cost of different wireless service plans
24. Calculate the cost of some types of home repair.
25. Compare the cost of buying furniture and appliances to the cost of renting-to-own

### UNIT 5 – Smart Shopping

1. Find the cost of buying goods in quantity
2. Compare costs for different sized containers of the same item
3. Learn about seven common types of advertising appeals
4. Calculate savings when buying goods or services on special
5. Find the amount of discount for a sale item
6. Find the cost of an item after a rebate
7. Calculate sale prices according to the dollar amount, percent, or fraction off the original prices
8. Learn how layaway plans and agreements work
9. Calculate the deposit amount for a layaway plan
10. Find the additional cost of using layaway
11. Find out how much merchandise you would need to buy to offset the cost of joining a buying club
12. Learn to recognize the warning signs of a dishonest buying club
13. Read and understand a catalog entry

14. Fill out an order form for a catalog order, including totaling the order and adding the cost of shipping
15. Calculate the total cost of an online purchase
16. Understand buying and selling on an Internet auction
17. Learn to recognize common types of consumer fraud
18. Learn how to write a consumer complaint letter
19. Calculate the down payment and finance amount to buy a car
20. Find the deferred price of a car
21. Learn to read an odometer
22. Calculate miles per gallon
23. Find the cost of gas to operate a car for one year
24. Calculate the amount of mileage before scheduled tune-ups
25. Find the total cost of repairs

## Integrated Math Concepts\*

*(\*not for credit)*

(Available in English and Spanish)

### Scope of Course

This unique course provides a flexible, concentrated, step-by-step series of modules designed to enhance student ability to master the various components of secondary level math skills. This course offers a variety of ways in which it may be utilized, either in whole or in part, to best meet student needs, ranging from remediation and skill building, in preparation for enrollment in one of the traditional, standard high school math classes, or as a credit bearing course in its own right, should local school administrators elect to do so. Each of the ten modules teaches concepts and strategies that are essential for establishing a firm foundation in that particular content area. The ten course modules, which are non-sequential in nature, address the following content areas: real numbers, sets, variables and axioms, properties of real numbers, fractions, decimals, order of operations, equations, geometry, and properties of polygons.

### Sequence of Skills

#### MODULE 1 – Real Numbers

1. Learn to recognize and differentiate between natural numbers, whole numbers, integers, rational numbers, irrational numbers, and real numbers.
2. Relate the number line to the collection of real numbers.

#### MODULE 2 – Sets

1. Recognize a well-defined set
2. Learn set notation and terminology
3. Study some subsets of real numbers – prime and composite numbers

#### MODULE 3 – Variables and Axioms

1. Learn why, when, and how to use a variable
2. The definition of an axiom
3. Some specific axioms

#### MODULE 4 – Properties of Real Numbers

1. Learn the characteristics and uses of the following properties of real numbers:
  - the commutative property
  - the associative property
  - the distributive property
  - identity elements
  - inverses
  - the multiplication property of zero
  - to understand why division by zero is not allowed
  - to introduce the uniqueness and existence properties

#### MODULE 5 – Fractions

1. Become comfortable with fractions by

- understanding their make-up
  - comparing their sizes
2. Prepare for operations with algebraic fractions
    - by understanding the concepts behind the algorithms
    - by determining if solutions are reasonable

### MODULE 6 – Decimals

1. Become comfortable with decimals and decimal operations
  - by understanding the relative size of decimals
  - by understanding why the algorithms or rules dealing with decimals work
  - by testing answers for reasonableness

### MODULE 7 – Order of Operations

1. Understand why problems need to be performed in a certain order
2. Evaluate numerical expressions using order of operations
3. Evaluate variable expressions for specific values

### MODULE 8 – Equations

1. Translate algebraic expressions and equations, as well as consecutive integer questions
2. Solve:
  - One-step equations
  - Two-step equations
  - Complex equations (combining like terms, use of the distributive property, variables on both sides)
  - Multi-step equations
3. Translate algebraic inequalities
4. Solve and graph solutions to one and two-step inequalities

### MODULE 9 – Geometry

1. Describe points, lines, and planes
2. Sketch and label points, lines, and planes
3. Use problem solving to explore points, lines, and planes
4. Define line segments, rays, and angles
5. Recognize and examine types of angles
6. Explore problems using angle properties
7. Explore line relationships

### MODULE 10 – Properties of Polygons

1. Recognize and classify 2-dimensional shapes – circles, triangles and quadrilaterals
2. Find 2-dimensional shapes in the environment
3. Explore the sum of the measures of the angles of triangles and quadrilaterals
4. Classify a polygon according to the number of its sides
5. Count diagonals in polygons
6. Find the measures of the interior and exterior angles in polygons

## Biology A

Course No. 2000310

### Scope of Course

Biology is divided into two semesters of study (A & B) comprised of five units each. The first half of the course (A) provides a comprehensive exploration of the definition of life, the scientific method, cell structure, the chemical processes for energy production, life at the cellular and multicellular levels, and the various body systems that work together to sustain life. Laboratory activities embedded within each unit allow for hands-on, practical applications of various concepts and the interrelationships that exist at different levels within the living world.

### Sequence of Skills

#### UNIT 1 – The Science Called Biology

1. Introduction to Biology
2. Problem Solving: The Scientific Method
3. Laboratories:
  - Investigating the Scientific Method
  - Investigating Measurement
  - Investigating Changes in a Biological Material
  - Investigating the Compound Light Microscope
4. Making, Organizing, and Analyzing Observations
5. Line Graphs
6. Bar Graphs
7. Circle Graphs / Pie Charts
8. Interview

#### UNIT 2 –The Characteristics of Life

1. The Definition of Life
2. Using Life's Characteristics to Define It
3. Organizing the Characteristics of Life
4. The Scientific Definition of Life
5. Properties of Life
6. Life Activities:
  - Nutrition
  - Respiration
  - Synthesis, Growth, Reproduction
  - Transport
  - Laboratory Activity: Investigating the Transport of Water in a Living Organism
  - Excretion
  - Regulation
7. Are Viruses Alive?

#### UNIT 3 – The Chemistry of Life

1. The Chemical Nature of Life
2. What Are Living Things Made of?
3. The Making of Chemical Compounds:



- Ionic Bonding
- Covalent Bonding
- 4. A Study of pH
- 5. An Example of the Importance of pH to the Living World
- 6. Acid Rain
- 7. The Organic Compounds of Life
- 8. Testing for the Compounds of Life
- 9. Enzymes
- 10. Investigating Enzyme Activity
- 11. The Bag of Chemicals

#### UNIT 4 – The Cell

1. Cells: The Basic Unit of Life
2. Our City's Outer Wall—The Cell Membrane
3. Moving Around the City—Osmosis and Diffusion
4. Laboratories:
  - Lab #1: Osmosis/Diffusion
  - Lab #2—Looking at Cells
  - Lab #3—Modeling Mitosis (Cell Division)
5. How Cells Make Energy:
  - Step 1: Glycolysis
  - Step 2: The Mitochondrion
6. Using ATP—The Making and Breaking of the City's Energy Chips
7. The City's Factory and Packaging Plant—The Endoplasmic Reticulum and Golgi Apparatus
8. The City's Government Building and Control Center—The Nucleus
9. The Reason Why Our City Is Small
10. The Many Different Jobs of Cells

#### UNIT 5 – Life at the Cellular and Multicellular Levels

1. Introduction
2. Nutrition
3. Transport
4. Blood
5. Respiration
6. Excretion
7. Regulation
  - Nervous System
  - Endocrine System
8. Locomotion
  - Skeletal System
  - Muscular System
9. Integumentary System
10. Human Anatomy

## Biology B

Course No. 2000310

### Scope of Course

Biology is divided into two semesters of study (A & B) comprised of five units each. The second half of the course (B) provides a comprehensive exploration of reproduction, genetics, and classification of various organisms, evolution, and ecology. Laboratory activities embedded within each unit allow for hands-on, practical applications of various concepts and the interrelationships that exist at different levels within the living world.

### Sequence of Skills

#### UNIT 1 – Reproduction

1. Introduction
2. Asexual vs. Sexual Reproduction
3. Asexual Reproduction
4. Sexual Reproduction in Plants
5. Investigating a Typical Flower
6. Plant Growth and Development
7. Investigating Seed and Plant Development
8. Sexual Reproduction
9. Male Reproductive System
10. Female Reproductive System
11. Development and Embryology
12. Reproductive Technology

#### UNIT 2 – Genetics

1. Genetics – What Makes Us Each Unique?
2. Determining Phenotypes
3. Asexual Reproduction
4. Sexual Reproduction
5. Meiosis and Sexual Reproduction
6. Laboratories:
  - Meiosis
  - DNA Separation Simulation
  - Karyotyping
7. Components of DNA – The Stuff We Are Made Of
8. Constructing a DNA Model
9. Genes to Proteins
10. DNA Mutations
11. Genetic Engineering

#### UNIT 3 – Classification

1. The Need for Classification
2. What is Biological Classification?
3. Naming Organisms: The Principles of Taxonomy

4. How to Classify: Use a Classification Key
5. Classifying Trees by Using Their Leaves
6. Laboratory: Animal Classification
7. More Applications of the Animal Classification Lab
8. Modern Taxonomy: Biosystematics
9. Biosystematics Today
10. A Species Problem: Are the wolf and dog members of the same species?
11. The Science of Biosystematics: Evidences of Relationship
12. Modern Classification: Problem Solving

### UNIT 4 – Evolution

1. Where It All Began
2. Evidence of Evolution from Fossils
3. Evolution: Change Over Time
4. Evidence of Evolution in the Fossil Record
5. Laboratories:
  - Finch
  - Comparative Similarities
  - Constructing a Cladogram
6. Modern Evolution
7. Natural Selection of Alleles
8. Mechanisms of Change
9. The Peppered Moth - Survival of the Fittest
10. Comparative Similarities of Evolution
11. Path of Humans

### UNIT 5 – Ecology

1. Levels of Organization
2. Laboratories:
  - Biodiversity
  - Foreign Invaders: Ecological Succession
  - Saving a Habitat
  - Ecosystem in a Bottle
  - Ecosystem Damage
3. Energy Systems
4. Competition Shapes Communities
5. Cycling of Ecosystem Materials
6. Limits to Growth
7. Human Impact
8. Dangers to the Ecosystem

## Environmental Science A

Course No. 2001340

### Scope of Course

This course is divided into two semesters of study (A & B) comprised of five units each. The first half of the course (A) provides a comprehensive exploration of ecosystem structures and functions, studies the various global biomes, and the relationships between natural and human populations. Laboratory activities embedded within each unit allow for hands-on, practical applications of various concepts and the interrelationships that exist at different levels within the living world.

### Sequence of Skills

#### UNIT 1 – Ecosystem Structure

1. Introduction to Ecosystems: Structure of the Biosphere
2. What is an Ecosystem?
3. A Detailed Look at Ecosystem Structure
4. Investigate Your Ecosystem
5. Making an Ecosystem: Part One – Modeling Land Ecosystems
6. Making an Ecosystem: Part Two – Modeling Aquatic Ecosystems
7. Who's Eating Whom?
8. Identifying Ecosystem Roles
9. The Web of Life
10. Energy – Where Does It Go? Energy Pyramids and Trophic Levels
11. The Importance of Biodiversity
12. The Exxon Valdez Oil Spill
13. Exxon Valdez Ecosystem Impact

#### UNIT 2 – Ecosystem Function

1. Sunlight and Photosynthesis
2. Ecosystem Vocabulary
3. Energy Flow
4. Energy Pyramids
5. Symbiosis
6. Renewable Versus Non-Renewable Resources
7. Natural Cycles
8. Carbon and Oxygen Cycles
9. Water and Nitrogen Cycles
10. Competition and Succession
11. Succession Exploration (Field Experiment)
12. "Vivo"
13. Career Connection: Exploring Resources

#### UNIT 3 – Natural Populations

1. Review Nutritional Relationships
2. Exploration of Local Ecosystem Populations
3. Ecosystem Impact from Food Web Changes

4. Estimating Population Size
5. Carrying Capacity
6. Interpreting Population Data
7. Kaibab Deer Graphing Activity
8. Natural Selection Activity
9. Introduced Species: Issues and Challenges
10. Invasive Species Project
11. Reintroduction Programs: Pros and Cons
12. Career Connection: Population Analyst
13. Natural Controls for Pest Species

#### UNIT 4 – Biome

1. Definition and Description of Classification of Biomes
2. Rainforests
3. Temperate Deciduous Forest
4. Taiga/Coniferous Forest
5. Desert
6. Tundra
7. Grasslands
8. Freshwater
9. Wetlands
10. Marine
11. Biome Adaptations
12. Biome Project
13. Career Connection: Conservation Law Enforcement

#### UNIT 5 – Human Populations

1. World Populations: Numbers, Trends, and Reasons for Growth
2. Predictions on Consequences of Continued Growth
3. Population Comparisons: Developed Versus Developing Nations
4. Feeding More People
5. Space Concerns and Energy Use of Growing Populations
6. Graphing Population Growth
7. Shared Global Resources
8. Feeding A Growing Global Population
9. Sustaining Limited Resources
10. Factors Influencing Population Growth
11. Career Connection- Demographer
12. Individual Responsibility
13. Population Policy Project

## Environmental Science B

Course No. 2001340

### Scope of Course

This course is divided into two semesters of study (A & B) comprised of five units each. The second half of the course (B) provides a comprehensive exploration of various sources of energy, the structure and function of the atmosphere, the water cycle and factors impacting this valuable resource, the land and its responsible management, and the environmental movement over the years. Laboratory activities embedded within each unit allow for hands on, practical applications of various concepts and the interrelationships that exist at different levels within the living world.

### Sequence of Skills

#### UNIT 1 – Energy

1. Fossil Fuel – Oil
2. Fossil Fuels – Coal and Natural Gas
3. To drill or not to drill?
4. Solar Energy
5. Solar Energy Storage
6. Wind Power
7. Hydroelectric Power
8. Nuclear Power
9. Chain Reaction Demonstration
10. Geothermal and Tidal Power
11. Biomass
12. Energy Use at Home
13. Hydrogen

#### UNIT 2 – Atmosphere

1. The Atmosphere
2. Air Pressure
3. What Is Air Pollution?
4. Global Warming
5. Greenhouse Effect Demonstration
6. Acid Rain
7. Effects of Acid Rain
8. Ground Level Ozone
9. The Ozone Layer – Stratospheric Ozone
10. Environmental Issues – Global or Local?
11. How Clean Is the Air Around You?
12. Noise Pollution
13. Air Pollution Control

#### UNIT 3 – Water

1. Water Pollution
2. Plant Nutrients
3. Sediment Pollution

4. Groundwater Pollution
5. Groundwater Pollution Activity
6. Aquifer in a Cup
7. Toxic Waste
8. Municipal Solid Waste (MSW)
9. Thermal Pollution
10. Water Treatment Filtration Activity
11. Water Treatment Facilities
12. Sewage Treatment
13. Water Conservation Activity

#### UNIT 4 – Land

1. Overview of Environmental Hazards / Focus on Land
2. Municipal Solid Waste
3. Reducing Solid Waste / Municipal Solid Waste Activity
4. Hazardous Chemicals – Focus on Pesticides
5. Activity – How do Pesticides Affect an Ecosystem?
6. Bio magnification and the Pesticide Treadmill
7. Alternate Pest Control – Natural Methods
8. Love Canal History
9. Love Canal Testimony
10. Dioxin – Food and Drug Administration / Interagency Report
11. Public Awareness and Superfund
12. EPA and National Priority Listings
13. Environmental Responsibility in Your Area / NPL

#### UNIT 5 – Past, Present, and Future

1. History of the Environmental Movement
2. The Value of Biodiversity
3. Diversity in Your Own Backyard
4. Urban Sprawl
5. Invasive Non-Native Species
6. Habitat Restoration – You and Your Community
7. Rachel Carson – Someone Who Made a Difference
8. Costs and Benefits of Environmental Protection
9. Major Federal Environmental Laws
10. A Scientific Debate
11. Environmental Careers
12. Job Shadowing
13. Ask the Question

## U.S. Government

Course No. 2106310

### Scope of Course

This one-semester offering is divided into five units of study. Essential questions addressed start with the historic basis for the United States' form of government and the events leading up to the writing of the U.S. Constitution; its structure, purpose, guarantees, and functionality; the three branches of government; and how the separation of powers provides for checks and balances within the system. From there it moves on to the rights and responsibilities of citizenship and how it is obtained, the role of politics, and how public policy impacts both local and global issues. Activities foster direct connections with local governance and topics of concern.

### Sequence of Skills

#### UNIT 1 – The Birth of American Democracy

1. Purpose, basis, and types of government
2. Government in the colonies
3. The American resistance
4. Contributions of historical individuals
5. The Declaration of Independence
6. The First and Second Continental Congresses
7. Post-revolution government under the Articles of Confederation
8. Important compromises
9. The road to ratification
10. Two revolutions in the development of our government

#### UNIT 2 – The U. S. Constitution

1. Structure and purpose of the Constitution
2. Articles I – VI
3. The Bill of Rights
4. Amendments 11 – 27
5. The amendment process
6. The First Amendment with case study
7. The nation's symbols

#### UNIT 3 – Separation of Powers

1. Separation of powers
2. Legislative Branch at federal, state, and local levels
3. Executive Branch at federal, state, and local levels
4. Organization of the Executive Branch
5. Judicial Branch: Court System
6. Supreme Court decisions

#### UNIT 4 – Citizenship and Politics

1. Becoming a citizen
2. Responsibilities of citizenship
3. The voting process



4. Influencing the government
5. Political parties
6. Government revenues
7. Media influences

UNIT 5 – Public Policy

1. Civics
2. Politics and demographics
3. United States economy
4. Domestic policy
5. Global economy
6. U.S. Foreign policy
7. The United Nations

## U.S. History A

Course No. 2100310

### Scope of Course

This course is divided into two semesters of study (A & B) comprised of five units each. The first half of the course (A) begins with the Reconstruction period following the Civil War and covers up through the government policies and business practices that brought high levels of American prosperity after WWI, but led to world-wide economic collapse by the end of the 1920s.

### Sequence of Skills

#### UNIT 1 – Reconstruction and Backlash

1. Lincoln's and Johnson's plans for Reconstruction
2. The impeachment of Andrew Johnson
3. Amendments 13, 14, and 15
4. Ku Klux Klan and Jim Crow Laws
5. Plessy v. Ferguson
6. Booker T. Washington and W.E.B. DuBois

#### UNIT 2 – The Industrialization of the United States: 1876-1914

1. The United States becomes an industrial giant
2. Andrew Carnegie and John Rockefeller
3. Growth of unions
4. Immigration
5. Urbanization
6. Tammany Hall
7. Laissez-faire capitalism
8. Theodore Roosevelt: Trustbuster

#### UNIT 3 – United States Expansion

1. Manifest Destiny
2. Battle of Little Big Horn
3. Cowboy kingdom
4. Agriculture in the West: The Farmers Revolt
5. Spanish American War
6. American influence grows in Asia and Latin America
7. The Panama Canal

#### UNIT 4 – Theodore Roosevelt to Woodrow Wilson: The Progressive Era

1. Populists and Progressives
2. Muckrakers
3. The Wisconsin Idea
4. The presidency of Theodore Roosevelt
5. Amendments 16, 17, 18, and 19
6. Regulating and reforming big business
7. The presidency of Woodrow Wilson

UNIT 5 – Boom to Bust: World War I to the Great Depression

1. World War I
2. The Fourteen Points
3. Postwar isolationism
4. The Roaring Twenties
5. The Jazz Age

## U.S. History B

Course No. 2100310

### Scope of Course

This course is divided into two semesters of study (A & B) comprised of five units each. The second semester of the course (B) begins with the policies of F.D. Roosevelt that led the U.S. out of the Great Depression and the formation of alliances that brought about victory in WWII. The course then addresses the Cold War, the turmoil and changes of the 1960s through the 1980s, and moves up to present day inroads and challenges facing this country and the world.

### Sequence of Skills

#### UNIT 1 – The Great Depression – World War II

1. The Great Depression (1929-1932); causes and effects
2. Franklin Delano Roosevelt
3. The New Deal
4. World War II
5. The Holocaust
6. Research Essay

#### UNIT 2 – The Paradox of the Post-War Years: 1945-196

1. The United Nations
2. The Cold War around the world
3. The communist threat and policy of containment
4. The Korean War
5. The McCarthy Era
6. Dwight Eisenhower and the Cold War
7. Civil Rights
8. Prosperity and Rock & Roll

#### UNIT 3 – The Sixties: A Decade of Change and Upheaval

1. The Civil Rights Movement
2. The Kennedy years
3. Lyndon B. Johnson and the Great Society
4. American involvement in Vietnam

#### UNIT 4 – Years of Turmoil and Change: 1968 – 1988

1. Nixon's Imperial Presidency
2. Watergate
3. President Ford's administration
4. Jimmy Carter: foreign policy
5. Ronald Regan and the New Right
6. George H.W. Bush takes office

#### UNIT 5 – 1988 – Present

1. The Cold War comes to an end

2. The Persian Gulf War
3. Bill Clinton's two terms
4. George W. Bush: Homeland Security, the Bush Recession and Hurricane Katrina
5. War in Afghanistan and Iraq
6. The Obama presidency
7. Terrorism
8. Technology
9. Protecting the environment

## World Geography A

Course No. 2103300

### Scope of Course

This first semester of a two-semester course includes two units that serve as an introduction to the study of geography and the basic skills that are applied to investigation of the physical characteristics of the world. The remaining three units focus on the regions and countries of the Western Hemisphere and the role geography has played both historically and in the present.

### Sequence of Skills

#### UNIT 1 – Introduction to the Study of Geography

1. Introduction to geography
2. Studying geography
3. Five themes of geography
4. Value of geography
5. Reasons to study geography
6. Observing the world
7. Geographers' method
8. Physical and human characteristics
9. Resources and change
10. The human dilemma
11. Modifying our environment
12. Fields of geography
13. Careers in geography

#### UNIT 2 – Geography Skills

1. Global perspective
2. Maps and globes
3. Types of maps
4. Map skills
5. Regions
6. Physical characteristics
7. Geographic forms
8. Cultural characteristics
9. Meaning of culture
10. Belief systems
11. Political systems
12. Economic systems

#### UNIT 3 – North America

1. Overview of North America
2. Canada
3. Native civilizations of Canada
4. European claims on the Canadian wilderness
5. Modern issues: Quebec

6. Climate and topography of the United States
7. People of the United States
8. The modern United States
9. Overview of Mexico
10. Native civilizations of Mexico
11. Spanish conquest and domination
12. Modern Mexico
13. NAFTA

#### UNIT 4 – Central America and the Caribbean

1. Overview and early history of Central America
2. Colonialism and independence
3. Guatemala, Honduras, and Nicaragua
4. Belize and El Salvador
5. Panama and return of the Canal
6. Overview of the Caribbean
7. Encounter with Europe: case study of the Arawak Indians
8. Case study of independence: The Haitian revolution
9. Modern Haiti
10. Cuba: revolution and communism
11. Island nations: The Greater Antilles
12. Island nations: The Lesser Antilles
13. Modern issues: tourism

#### UNIT 5 – South America

1. Overview of South America
2. Native cultures and early history
3. European domination and colonialism
4. Independence and regionalism
5. Venezuela and Colombia
6. Ecuador, Perú, and Bolivia
7. Guyana, Surinam, and French Guiana
8. The Galapagos Islands
9. Chile and Argentina
10. Brazil, Uruguay, and Paraguay
11. Modern issues: cash crops
12. Modern issues: rainforests and deforestation
13. Modern issues: urbanization

## World Geography B

Course No. 2100330

### Scope of Course

This second semester of a two-semester course consists of five units that focus on the regions and countries of the Eastern Hemisphere and the role geography has played both historically and in the present.

### Sequence of Skills

#### UNIT 1 – Europe

1. Overview of Europe
2. Northern and Western Europe
3. Mediterranean Europe
4. Eastern Europe
5. Northern Eurasia
6. European Russia and the Caucasus
7. The Irish Potato Famine
8. European Imperialism
9. The Geography of Genocide: Case Study of Yugoslavia
10. The Commonwealth of Independent States
11. Environmental Disaster at Chernobyl
12. European Unity
13. Modern Geographic Issues: Pollution

#### UNIT 2 – Africa

1. Northern Africa
2. Overview of Sub-Saharan Africa
3. West Africa
4. East Africa
5. Southern Africa
6. Egypt: Then and Now
7. Medieval West African Civilizations
8. Cultural Diffusion: Bantu Migrations and Swahili
9. European Imperialism and Independence in Africa
10. The Legacy of European Imperialism in Southern Africa
11. Civil War in the Congo
12. Famine in Somalia
13. Modern Geographic Issues: Disease

#### UNIT 3 – Middle East

1. Overview of Southwest Asia and Northern Africa
2. History of the Fertile Crescent
3. The Rise and Spread of Monotheistic Faiths
4. Islam: A Unifying and Dividing Force
5. The Arabian Peninsula Today



6. The Eastern Mediterranean
7. Case Study: Conflict in Israel
8. Central Asia
9. Turkey
10. Modern Iran
11. Modern Issues: Conflict in Iraq
12. Essential Resources: Oil and OPEC
13. Essential Resources: Water

#### UNIT 4 – East Asia and the South Pacific

1. Overview of East Asia
2. China
3. China: Three Gorges Dam
4. Mongolia and Taiwan
5. Japan: Geography and the Development of an Isolated Culture
6. Japan: Modern Issues and Innovation
7. The Two Koreas
8. Overview of Southeast Asia
9. Burma/Myanmar, Thailand, and Cambodia
10. Laos and Vietnam
11. Malaysia, Singapore, Indonesia, Papua New Guinea, and the Philippines
12. Pacific Rim Economies: The Asian Tigers
13. Australia and New Zealand

#### UNIT 5 – South Asia

1. Overview of South Asia
2. Monsoons Up Close
3. Ancient India: The Indus Valley
4. India: Invasion and Conquest
5. Modern India
6. Creation of Pakistan
7. Modern Pakistan
8. Bangladesh
9. Sri Lanka: From Colonialism to Civil War
10. Himalayan Mountains: Nepal and Bhutan
11. Afghanistan: History of Invasions
12. Modern Afghanistan
13. Modern Issues for South Asia

## World History A

Course No. 2109310

### Scope of Course

This World History course allows students to learn about the progression of human history on a global basis. It is divided into two semesters of study (A & B). World History A starts the journey with global prehistory and ancient times and carries it through the Industrial Revolutions and European imperialism of the 19th century.

### Sequence of Skills

#### UNIT 1 – Prehistory and the Ancient World

1. Introduction to Social Studies
2. Early Humans and the Beginnings of Civilization
3. Mesopotamia
4. Ancient Egypt
5. Ancient India
6. Ancient China
7. The Greek World
8. The Greco-Persian Wars – Evaluating Sources
9. The Roman Empire
10. Trade Routes of the Ancient World
11. Mesoamerica
12. The Gupta Empire in India
13. Early Belief Systems

#### UNIT 2 – Eastern Empires and Changes in Western Civilization

1. Medieval Europe
2. The Byzantine Empire
3. Early Russia
4. The Spread of Islam
5. The Crusades
6. Civilizations in Africa
7. Dynasties of China
8. The Mongol Empire
9. The Late Middle Ages: Trade Brings Change
10. The Renaissance
11. Changes in Religion – the Protestant Reformation
12. The Spread of the Protestant Reformation and Its Effects
13. The Rise of Nation States

#### UNIT 3 – The First Global Age

1. Empires of the Western Hemisphere – the Aztecs and the Inca
2. The Age of Discovery and Exploration
3. Colonization of the New World
4. Effects of European Colonization: The New World

5. Islamic Empires: the Ottomans
6. Islamic Empires: the Safavid Dynasty
7. The Moguls of India
8. The Ming Dynasty
9. The Qing Dynasty
10. Japan
11. Korea
12. Australia and New Zealand
13. The Impact of the First Global Age

#### UNIT 4 – The Age of Revolution

1. Europe during the Age of Discovery – the Rise of Absolutism
2. Absolutism in England and the Rise of Constitutionalism
3. The Scientific Revolution
4. The Enlightenment
5. Women of the Scientific Revolution and Enlightenment
6. Art and Architecture in Enlightenment Europe
7. The American Revolution
8. The French Revolution
9. The Napoleonic Era
10. Europe after Napoleon
11. Revolutions in Latin America
12. Latin America: The Struggle for Democracy and Stability
13. Compare/Contrast Essay

#### UNIT 5 – Industrial Revolutions and 19th Century Imperialism

1. The Industrial Revolution
2. Responses to Industrialization
3. Europe in the Face of Change
4. The Unifications of Italy and Germany
5. Nationalism and Reform – Europe and North America
6. Nationalism and Reform in the East
7. The New Imperialism
8. Africa
9. Effects and Results of Imperialism
10. Japan and the United States Enter the World Stage
11. Inventions and Advances in Technology and Transportation
12. Industrial Societies of the Late Nineteenth Century
13. Research Project

## World History B

Course No. 2109310

### Scope of Course

This World History course allows students to learn about the progression of human history on a global basis. It is divided into two semesters of study (A & B). World History B begins with World War I and the revolutions of the early 20th century and ends with the modern world and current global issues. Information and study is presented in chronological order and oriented by geographic location.

### Sequence of Skills

#### UNIT 1 – World War and Revolution

1. Nationalism: A Force for Change
2. The Armenians: the “Forgotten Genocide”
3. Long-Term Causes of World War I
4. Assassination and War
5. World War I: The Great War
6. A Global Conflict
7. World War I: Its Aftermath
8. A Flawed Peace
9. Revolutions in Czarist Russia
10. Communism in the Soviet Union: from Lenin to Stalin
11. A Study of Totalitarianism: The U.S.S.R. under Stalin
12. The 1920s: Attempts at Peace and Recovery, The Great Depression
13. Between the Wars: Social and Cultural Changes

#### UNIT 2 – From World War to Cold War

1. Revolution and Nationalism in the East
2. Rise of Fascism in Europe
3. Aggression and War in Asia
4. Aggression and War in Europe
5. World War II in Europe
6. World War II in the Pacific
7. Allied Victory
8. The Atomic Bombs
9. The Holocaust
10. The Cost of War and Justice
11. Rebuilding Germany and Japan
12. From World War to Cold War
13. A Polarized World

#### UNIT 3 – Colonial Independence: The Restructuring of the Post-War World

1. China Becomes a Communist Nation
2. The Cold War Gets Hot: Korea
3. The War in Vietnam

4. Genocide in Cambodia
5. Southeast Asian Nations Gain Independence
6. Independence and Partition for India
7. New Nations in Africa
8. Conflict in the Middle East
9. Struggles in Central Asia: Afghanistan
10. Revolution and Communism in Latin America
11. Struggles in Latin America: Repressive Governments
12. Western Europe
13. Human Rights Violations in the 20th Century

#### UNIT 4 – The Modern World

1. Reform and Change in Communist China
2. Asian Tigers
3. South Asia: Emerging Powers
4. Apartheid in South Africa
5. The Persian Gulf Wars
6. Islamic Fundamentalism in Iran
7. Middle East Tension Today
8. The Cold War Thaws
9. The End of the Soviet Union
10. Revolution and Change in Eastern Europe
11. The Breakup of Yugoslavia
12. The Democracies of Western Europe
13. Modern Latin America

#### UNIT 5 – Current Global Issues

1. A Global Community
2. Science and Technology
3. Global Economics: The Haves vs. the Have-nots
4. The Environment
5. International Terrorism
6. Human Rights Issues in Africa: Rwanda and Durrfur
7. Human Rights Issues in Modern China
8. World Health Issues
9. Patterns of Global Migration
10. Illegal Drug Trafficking
11. The Status of Women
12. Global Citizenship
13. The Flow of Money: from Global Economics to Personal Finance

## Economics

Course No. 2102310

### Scope of Course

In this one-semester course, students will learn the major economic concepts and theories covering how people use scarce resources like time, land, or money, to meet their needs or wants. Economics is not just about money – it is about scarcity, opportunity, and making decisions. Students will gain valuable knowledge about business, government, finance, and the world economy. Students will also have opportunities to apply this knowledge in practical ways by developing a budget, applying for a job, using a bank account, etc. Activities will help students to analyze choices and improve their decision-making skills to become better problem-solvers by examining complex economic problems and considering a variety of possible solutions. In addition, career opportunities in fields related to economics are discussed and explored.

### Sequence of Skills

#### UNIT 1 – Fundamentals of Economics

1. Basics of economics
2. Instructions for reading graphs
3. Macroeconomics
4. Microeconomics
5. Scarcity's role in the economy
6. Resources – natural, human, capital
7. Factors of production
8. Economic systems – traditional, command, market

#### UNIT 2 – Supply, Demand, and Prices

1. Relationship between supply and demand
2. Utility
3. Determinants of Elasticity and Inelasticity
4. Market Price
5. Price and the government

#### UNIT 3 – Business and Government

1. Business organizations – sole proprietorship, partnership, corporation
2. Market structures: perfect competition, monopoly, oligopoly
3. Price determination
4. Role of government in economics
5. Government revenue and spending
6. Measuring economic performance
7. Business cycle

#### UNIT 4 – Employment and Money

1. Elements of employment
2. Labor unions
3. Trends in labor
4. Poverty and Income Distribution

5. Wages and Income
6. Exchanging for goods and services
7. Budgeting
8. Banking, Saving, Investing
9. Monetary policy

**UNIT 5 – Global Economics**

1. International trade
2. Trade - balance, barriers, agreements
3. Economic systems – capitalism, socialism, communism
4. Global view of U.S. economy
5. Third World Research

## Economics with Financial Literacy

Course No. 2102335

### Scope of Course

In this one-semester course, students will learn the major economic concepts and theories covering how people use scarce resources like time, land, or money, to meet their needs or wants. Economics is not just about money – it is about scarcity, opportunity, and making decisions. Students will gain valuable knowledge about business, government, finance, and the world economy. Students will also have opportunities to apply this knowledge in practical ways by developing a budget, applying for a job, using a bank account, paying for college, etc. Activities will help students to analyze choices and improve their decision-making skills to become better problem-solvers by examining complex economic problems and considering a variety of possible solutions. Students are also asked to conduct research on current topics in an attempt to show them how to gain access and interpret information to become a more informed consumer and citizen. In addition, career opportunities in fields related to economics are discussed and explored.

### Sequence of Skills

#### UNIT 1 – Fundamentals of Economics

1. Basics of Economics
2. Instructions for reading graphs
3. Macroeconomics
4. Microeconomics
5. Scarcity's role in the Economy
6. Resources – natural, human, capital
7. Factors of production
8. Local government planning
9. Economic Systems – traditional, command, market

#### UNIT 2 – Supply, Demand, and Prices

1. Relationship between supply and demand
2. Utility
3. Determinants of elasticity and inelasticity
4. Market price
5. Price and the government
6. Price system
7. Theory of production

#### UNIT 3 – Business and Government

1. Business Organizations – sole proprietorship, partnership, corporation, franchise, non-profit
2. Market structures – perfect competition, monopoly, oligopoly
3. Price determination
4. Role of government in economics
5. Government revenue and spending
6. Measuring economic performance
7. Business cycle
8. Federal monetary policy



9. Unemployment and poverty

UNIT 4 – Employment and Money

1. Elements of employment
2. Labor unions
3. Trends in labor
4. Outsourcing
5. Wages, income, and paying taxes
6. Budgeting
7. Banking, saving, investing and using credit
8. Consumer choices
9. Identity theft
10. Monetary policy

UNIT 5 – Global Economics

1. International trade
2. Trade – balance, barriers, agreements
3. Free trade
4. Financing trade
5. Global view of U.S. economy
6. Economic Development in less-developed countries
7. Global Economic concerns – child labor, ethical consumption

## Critical Thinking and Study Skills

Course No. 1700370

### Scope of Course

The Critical Thinking and Study Skills Course helps students discover the best learning style for their situation. The course offers information and activities to help improve reading, writing, speaking, listening, problem solving skills, and test taking strategies.

### Sequence of Skills

#### UNIT 1 – Learning Styles

1. Characteristics of Physical Learning Styles
2. Characteristics of Intrinsic Learning Styles
3. Characteristics of Emotional Learning Styles
4. Discover Individual Learning Style

#### UNIT 2 – Fundamentals

1. Critical Thinking
2. Speaking
3. Listening
4. Spelling Rules
5. Mechanics
6. Analyzing Text
7. Letter Writing

#### UNIT 3 – Methods of Study

1. Ways to Study
2. Outlining and Note taking
3. Diagnosing Fiction
4. Sequencing: Cause and Effect
5. Visual Aids
6. Parts of a Book
7. The Internet

#### UNIT 4 – Words, Words, Words

1. Antonyms, Synonyms, Homonyms, Context Clues
2. Entomology
3. The Versatile English Language
4. Emotional Language
5. Problem Solving
6. The Main Idea
7. Summarizing

#### UNIT 5 – Test Strategies and Research Techniques

1. Reading Directions
2. Objective Test Strategies
3. Essays – Literary and Personal

## Electives

4. The Interview
5. Researching
6. Writing the Research Paper
7. Editing and Proofreading

## Career Research and Decision Making Course No. 1700380

(Available in English and Spanish)

### Scope of Course

This course is designed to help students find out more about their interests, talents, values, and goals in life. Once they know more about themselves and what they want to achieve, students will learn how to use that information to find a career or life path where they will be happy and fulfilled. This course will be very helpful for students in making plans for after high school, whether they plan on going on to post-secondary education or entering the workforce immediately, as it helps them learn how to start preparing for a future career.

### Sequence of Skills

#### UNIT 1 – Learning About Yourself

1. Introduction to the Course
2. Your Autobiography
3. What Do You Bring to the Table?
4. Personality Types
5. O\*NET Interest Profiler and How It Can Help
6. Abilities and Values Assessments
7. Nontraditional Careers
8. Training and Education requirements for different career paths
9. Developing a Basic Career Plan
10. Decision-Making
11. Evaluating Careers

#### UNIT 2 – Learning About Careers

1. The Changing Labor Market
2. Supply and Demand
3. Free Enterprise
4. Career Resources & Introduction to Career Industries and Occupations
5. Careers in Construction
6. Careers in Energy
7. Careers in Advanced Manufacturing
8. Careers in Health Care
9. Careers in STEM
10. Types of Businesses and the Organizational Structure
11. Be an Entrepreneur
12. Job Shadowing and Volunteering

#### UNIT 3 – Applying for Jobs

1. Organizing Your Job Search
2. Evaluating Jobs Based On Wage
3. Using the Newspaper & Internet to Search for Jobs
4. Writing a Résumé
5. Writing a Cover Letter

6. Job Applications
7. Career Portfolio & Letters of Reference
8. The Job Interview
9. Interview Scenarios
10. After the Interview
11. Networking
12. Job Searching Tips

### UNIT 4 – Success On the Job

1. Organizing Your Job Search
2. Diversity & Communication
3. Conflict Resolution
4. Receiving Feedback
5. Teamwork
6. Decision-Making on the Job
7. Getting Tasks Accomplished on the Job
8. Management and Leadership Styles
9. Your Wages and Withholdings
10. Your Rights as a Worker
11. Discrimination in the Workplace
12. Moving On from a Job

### UNIT 5 – Planning Your Future

1. Setting Goals (CB/WB)
2. Planning for the Future (CB/WB)
3. Paying for College (CB/WB)
4. Test Taking (CB/WB)
5. How Do YOU Learn? (CB/WB)
6. Looking Toward the Unknown (CB/WB)
7. The College Essay (CB)
8. Putting It All Together (CB)
9. Completing the College Application (CB)
10. Preparing for the College Interview (CB)
11. You and Your Family (CB/WB)
12. Internet Resources (CB/WB)
13. The College Culture (CB)
14. Graduating from High School (WB)
15. Creating A Budget (WB)
16. Using A Monthly Budget (WB)
17. Further Developing Your Career Plan (WB)

CB = college bound

WB = work bound

Students are asked to do only those lessons relevant to their focus after high school.

## Your Health/Life Management Skills

Course No. 0800300

(Available in English and Spanish)

### Scope of Course

The focus of this course is on topics and issues encountered by teens. Students will have a chance to: assess their own personal health and the health of other teens, review the health of their community, evaluate the risks they face and practice reducing those risks, build their skills to be healthy and stay healthy, consider the relationships they are part of or want to be part of, and create their own health plans to care for themselves both now and in the future.

### Sequence of Skills

#### UNIT 1 – How Are You Feeling?

1. Introduction to health and definitions
2. The triangle of health
3. Body systems
4. Hygiene and good manners
5. Fitness, exercise, and nutrients

#### UNIT 2 – How Does Your Community Feel?

1. Community and health. Kinds of communities
2. A look at the Hispanic and teenage community
3. Communicable and non-communicable diseases
4. Vulnerable communities
5. Community programs that help
6. Community projects by different organizations
7. Advocating for legislation that favors health in our communities

#### UNIT 3 – What Is Your Risk?

1. Safety and risks
2. Nutrition, physical activity, and personal attitude towards exercise
3. Health and legal consequences for teenage use of drugs, tobacco, and alcohol
4. Injuries and suicide
5. Abstinence versus sexual activity: Risks, sexual behaviors, and sexually transmitted diseases.
6. Eating disorders and body image
7. Role and power of media, family, and friends
8. Personal safety and mental health
9. Preventive strategies
10. Home and family safety

#### UNIT 4 – How Is Your Emotional I.Q.?

1. Emotional health
2. Building resilience, balance, and self-control
3. Emotions and decision-making
4. Managing anger and stress
5. Conflict resolution and peace-making

6. Recognizing and preventing violence
7. Improving attitudes. Self-esteem and affirmations

### UNIT 5 - What Is Your Plan?

1. Habits and responsibility
2. Prevention vs. cure
3. Self-care and setting your health goals
4. Health and your future employment. Health care benefits
5. Mental health and depression
6. Role models
7. Your life story and dreams



Please fax or mail to:  
 Migrant Education Services Center  
 408 Chipman Street  
**Plant City, FL 33563**  
**Ph: 813-757-9331 Fax: 813-757-9332**

**Florida PASS Program  
 Assurances and Student Application**

**FOR OFFICE USE ONLY:**  
 Approved  Not approved  
 Date: \_\_\_\_\_  
 Signature: \_\_\_\_\_

I certify that this student:

- ◆ Was identified as eligible for migrant services upon entering or while attending high school;
- ◆ Demonstrates at least seventh grade level reading and writing skills;
- ◆ Is in need of this course to fulfill promotion or graduation requirements.

\_\_\_\_\_  
 Contact person signature Date Facilitating teacher signature Date

\_\_\_\_\_  
 Student signature Date

***Guidance certification:***  
*I certify that this course has been selected to meet the student's graduation and/or promotion requirements.*

\_\_\_\_\_  
 Guidance counselor's signature Date

**Student Information**

Name: \_\_\_\_\_ District Student ID #: \_\_\_\_\_ Date of Birth: \_\_\_\_\_

**Gender:**  Male  Female **Race:**  Hispanic  American Indian  Asian  Black  White  Other

Current School: \_\_\_\_\_ Current Grade: \_\_\_\_\_ QAD: \_\_\_\_\_

School District Name: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

Mailing address: \_\_\_\_\_

Facilitating Teacher: \_\_\_\_\_ Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_

Mailing address: \_\_\_\_\_

**Please enroll the above student in the following course (list only one course).**

PASS Course Title: \_\_\_\_\_ Course #: \_\_\_\_\_

Reason(s) for taking this course (select all that apply):

Graduating This Year	Promotion	Credit Accrual	Raise GPA	Repeat Course
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Mail course materials to:  Contact Person  Facilitating Teacher





# FLORIDA PASS PROGRAM STUDENT SURVEY

**Your input is very valuable to us.  
Please complete this survey about your experience taking this course and return it to your teacher**

<b>Name of course evaluated:</b>	Highly Agree	Agree	Disagree	Highly Disagree	Unsure
1. The lessons were easy to read.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. The lessons were interesting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. I have received sufficient help and support from the facilitating teacher.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. The lessons were challenging, but not beyond my abilities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. The length of the lessons was fair and manageable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. The directions and questions were easy to understand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. I enjoyed the variety of course activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Participation in a PASS course allowed me to meet credit and graduation requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Did the tests cover the material in the lessons? If not, please explain.					
10. What suggestions do you have for improving this course?					

Reason for taking this course: (Select all that apply)	Graduating This Year <input type="checkbox"/>	Promotion <input type="checkbox"/>	Credit Accrual <input type="checkbox"/>	Raise GPA <input type="checkbox"/>	Repeat Course <input type="checkbox"/>
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Grade: \_\_\_\_\_ School: \_\_\_\_\_

District: \_\_\_\_\_ Date: \_\_\_\_\_

**Teacher, please return the completed survey to the Florida PASS Office at:  
Florida PASS Office, 408 Chipman St., Plant City, FL 33563 • 800-348-7624 / 813-757-9331 • Fax: 813-757-9332**



## FLORIDA PASS PROGRAM MENTOR SURVEY

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

Name of course evaluated:  
\_\_\_\_\_

E-mail: \_\_\_\_\_

Date: \_\_\_\_\_

	Highly disagree	Disagree	Neutral	Agree	Highly agree	Don't know
1. Course meets high standards.	1	2	3	4	5	
2. Student can complete course as semi-independent work.	1	2	3	4	5	
3. The sequence of units and lessons is logical.	1	2	3	4	5	
4. Activities are appropriate and interesting.	1	2	3	4	5	
5. The lessons are challenging.	1	2	3	4	5	
6. The lessons are within a student's abilities.	1	2	3	4	5	
7. The length of the lessons is fair and manageable.	1	2	3	4	5	
8. The directions and questions are easy to understand.	1	2	3	4	5	
9. Overall I would rate the course as:	poor	fair	good	very good	excellent	

10. What changes would you recommend to improve the course? (Use back of sheet if needed.)

11. Please note page numbers of errors you have found and explain.



# Florida PASS Program Course Catalog

