**COURSE DESCRIPTION**

**Course Title:** Algebra IA

**Course Number:** 00225

**Course Prerequisites:** This course is designed for the student who has completed Pre-Algebra 8, but did not earn higher than a 75%.

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| --- | --- |
| **Course Description:** | Algebra IA is the first of the two-year Algebra course; in the sequence Algebra IA, Algebra IB, and Geometry. In order to take this course, a student must have completed Pre-Algebra 8 **but did not earn greater than 75%.** This course includes a study of numbers and operations, algebraic concepts, equations, inequalities, and linear functions. |

**Suggested Grade Level**: Grade 9

**Length of Course:** Two Semesters

**Units of Credit:** 1

**PDE Certification and Staffing Policies and Guidelines (CSPG) Required Teacher Certifications:**

CSPG #50 Mathematics

To find the CSPG information, go to [CSPG](https://www.education.pa.gov/Educators/Certification/Staffing%20Guidelines/Pages/default.aspx)

**Certification verified by the WCSD Human Resources Department:** [x] Yes [ ] No

**WCSD STUDENT DATA SYSTEM INFORMATION**

**Course Level:** Academic

**Mark Types:** Check all that apply.

[x] F – Final Average [x] MP – Marking Period [x] EXM – Final Exam

**GPA Type**: [ ]  GPAEL-GPA Elementary [ ]  GPAML-GPA for Middle Level [x]  NHS-National Honor Society

[x]  UGPA-Non-Weighted Grade Point Average [x]  GPA-Weighted Grade Point Average

**State Course Code**: 02053

To find the State Course Code, go to [State Course Code](https://nces.ed.gov/forum/sced.asp), download the Excel file for *SCED*, click on SCED 6.0 tab, and chose the correct code that corresponds with the course.

**TEXTBOOKS AND SUPPLEMENTAL MATERIALS**

**Board Approved Textbooks, Software, and Materials:**

**Title:**  enVision Algebra 1

**Publisher:** Pearson

**ISBN #:**  #10: 0-328-93154-3

**Copyright Date:** 2018

**WCSD Board Approval Date:** 6/29/2020

**Supplemental Materials:** kutasoftware.com

**Curriculum Document**

**WCSD Board Approval:**

**Date Finalized:** 6/5/2020

**Date Approved:**  6/29/2020

**Implementation Year:** 2020-2021

**SPECIAL EDUCATION, 504, and GIFTED REQUIREMENTS**

The teacher shall make appropriate modifications to instruction and assessment based on a student’s Individual Education Plan (IEP), Chapter 15 Section 504 Plan (504), and/or Gifted Individual Education Plan (GIEP).

**SCOPE AND SEQUENCE OF CONTENT, CONCEPTS, AND SKILLS**

|  |  |  |
| --- | --- | --- |
| **Performance Indicator** | **PA Core Standard and/or Eligible Content** | **Month Taught and Assessed for Mastery**  |
| Compare and order real numbers | A1.1.1.1.1 | September |
| Classify real numbers | A1.1.1.1.1 | September |
| Find and estimate square roots | A1.1.1.1 | September |
| Find sums and differences of real numbers | A1.1.1.1 | September |
| Find products and quotients of real numbers | A1.1.1.1 | September |
| Write algebraic expressions to model word phrases | A1.1.1.2 | September |
| Evaluate expressions by using the order of operations | A1.1.1.2, A-SSE.2, A-SSE.3 | September |
| Simplify expressions by combining like terms | A1.1.1.2, A-SSE.2, A-SSE.3 | September |
| Simplify expressions by using the distributive property | A1.1.1.2, A-SSE.2, A-SSE.3 | September |
| Verify solutions to equations and inequalities | A1.1.1.2, A-SSE.2, A-SSE.3 | September |
| Solve one-step equations in one variable | A1.1.2.1.1, A-CED.1, A-REI.1, A-REI.3, A-SSE.1a | OctoberNovember |
| Solve two-step equations in one variable | A1.1.2.1.1, A-CED.1, A-REI.1, A-REI.3, A-SSE.1a | OctoberNovember |
| Solve multi-step equations in one variable | A1.1.2.1.1, A-CED.1, A-REI.1, A-REI.3, A-SSE.2, A-SSE.1a | OctoberNovember |
| Solve equations with the variable on both sides | A1.1.2.1.1, A-CED.1, A-REI.1, A-REI.3, A-SSE.2, A-SSE.1a | OctoberNovember |
| Understand equations with infinitely many or no solutions | A1.1.2.1.1, A1.1.2.1.3, A-CED.1, A-REI.1, A-REI.3, A-SSE.1a | OctoberNovember  |
| Write and solve equations to model real-world problems | A1.1.2.1.1, A1.1.2.1.3, A-CED.1, A-REI.1, A-REI.3, A-SSE.1a | OctoberNovember  |
| Rewrite literal equations and formulas to highlight a variable of interest | A1.1.2.1.1, A-CED.4, A-REI.3, A-SSE.2 | OctoberNovember  |
| Use literal equations and formulas to solve problems | A1.1.2.1.1, A-CED.4, A-REI.3, A-SSE.2 | OctoberNovember  |
| Solve proportions | A1.1.2.1.1, A-CED.1, A-REI.1, A-REI.3, A-SSE.2, A-SSE.1a | OctoberNovember  |
| Use proportions to solve real-world problems, including finding missing lengths in similar figures and measuring indirectly | A1.1.2.1.1, A1.1.2.1.3, A-CED.1, A-REI.1, A-REI.3, A-SSE.1a | OctoberNovember  |
| Solve percent problems using a proportion | A1.1.2.1.1, A1.1.2.1.3, A-CED.1, A-REI.1, A-REI.3, A-SSE.1a | OctoberNovember  |
| Write and graph inequalities | A1.1.3.1, A1.1.3.1.2, A-CED.1 | NovemberDecember |
| Identify solutions of inequalities | A1.1.3.1.2 | NovemberDecember  |
| Solve one-step inequalities | A1.1.3.1, A1.1.3.1.2, A-CED.1, A-REI.3, A-SSE.1a | NovemberDecember  |
| Solve two-step inequalities | A1.1.3.1, A1.1.3.1.2, A-CED.1, A-REI.3, A-SSE.1a | NovemberDecember  |
| Solve multi-step inequalities | A1.1.3.1, A1.1.3.1.2, A-CED.1, A-REI.3, A-SSE.1a | NovemberDecember  |
| Solve inequalities with the variable on both sides | A1.1.3.1, A1.1.3.1.2, A-CED.1, A-REI.3, A-SSE.1a | NovemberDecember  |
| Understand inequalities with infinitely many or no solutions | A1.1.3.1, A1.1.3.1.2, A-CED.1, A-REI.3, A-SSE.1a | NovemberDecember  |
| Write and solve inequalities to model real-world problems | A1.1.3.1, A1.1.3.1.2, A1.1.3.1.3, A-CED.1, A-REI.3, A-SSE.1a | NovemberDecember  |
| Understand compound inequalities | A1.1.3.1.1, A-CED.1, A-REI.1 | NovemberDecember  |
| Solve a compound inequality involving “OR” | A1.1.3.1.1, A-CED.1, A-REI.1 | NovemberDecember  |
| Solve a compound inequality involving “AND” | A1.1.3.1.1, A-CED.1, A-REI.1 | NovemberDecember  |
| Understand and solve absolute value equations | A1.1.1.3, A1.1.3.1.1, A-CED.1, A-REI.1, A-SSE.1a | NovemberDecember  |
| Understand and solve absolute value inequalities | A1.1.1.3, A1.1.3.1.1, A-CED.1, A-REI.1, A-SSE.1a | NovemberDecember  |
| Identify patterns and equations that represent linear functions | A1.1.2.1.3, A1.2.1.1, A1.2.1.1.1, A1.2.1.2.1, A1.2.2.1.3 | JanuaryFebruary |
| Identify patterns and equations that represent nonlinear functions | A1.1.2.1.3, A1.2.1.1, A1.2.1.1.1, A1.2.1.2.1,  | JanuaryFebruary  |
| Use tables to graph equations of linear and nonlinear functions | A1.1.2.1, A1.1.2.1.3, A1.2.1.1, A1.2.1.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1.3 | JanuaryFebruary  |
| Compute the slope of a linear relationship | A1.2.2.1, A1.2.2.1.1, A1.2.2.1.2, A1.2.2.1.4,  | JanuaryFebruary  |
| Graph linear equations in slope-intercept form | A1.1.2.1, A1.2.1.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.4, A-CED.2, A-REI.10 | JanuaryFebruary  |
| Write a linear equation from a graph | A1.1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A1.2.2.1.4, A-CED.2 | JanuaryFebruary  |
| Write linear equations in slope-intercept form | A1.1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A1.2.2.1.4, A-CED.2 | JanuaryFebruary  |
| Write linear equations in slope-intercept form to model real-world problems | A1.1.2.1.1, A1.1.2.1.3, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A1.2.2.1.4, A-CED.2, A-CED.3 | JanuaryFebruary  |
| Interpret the slope and y-intercept of a linear equation that models a real-world problem | A1.1.2.1.3, A1.2.1.2, A-CED.3 | JanuaryFebruary  |
| Write linear equations in point-slope form | A1.1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A1.2.2.1.4, A-CED.2 | JanuaryFebruary  |
| Graph linear equations in point-slope form | A1.1.2.1, A1.2.1.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.4, A-CED.2, A-REI.10 | JanuaryFebruary  |
| Write linear equations in point-slope form to model real-world problems | A1.1.2.1.1, A1.1.2.1.3, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A1.2.2.1.4, A-CED.2, A-CED.3 | JanuaryFebruary  |
| Transform equations from point-slope to slope-intercept form | A1.1.2.1.1, A1.2.1.2.2, A-CED.4 | JanuaryFebruary  |
| Graph an equation in standard form by using intercepts | A1.1.2.1, A1.2.1.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.4, A-CED.2, A-REI.10 | JanuaryFebruary  |
| Relate standard form to horizontal and vertical lines | A1.1.2.1, A1.2.1.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.4, A-CED.2, A-REI.10 | JanuaryFebruary  |
| Write linear equations in standard form to model real-world problems | A1.1.2.1.1, A1.1.2.1.3, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A1.2.2.1.4, A-CED.2, A-CED.3 | JanuaryFebruary  |
| Transform equations from standard form to slope-intercept form | A1.1.2.1.1, A1.2.1.2.2, A-CED.4 | JanuaryFebruary  |
| Determine whether lines are parallel, perpendicular, or neither | A1.2.1.1, A1.2.1.2, A1.2.2.1.1, A-CED.4 | JanuaryFebruary  |
| Write an equation of a parallel line | A1.1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A1.2.2.1.4, A-CED.2 | JanuaryFebruary  |
| Write an equation of a perpendicular line | A1.1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A1.2.2.1.4, A-CED.2 | JanuaryFebruary  |
| Identify the domain and range of a relation | A1.2.1.1, A1.2.1.1.3 | MarchApril |
| Find a reasonable domain and range for a real-world problem | A1.2.1.1, A1.1.2.1.3, A1.2.1.1.3 | MarchApril  |
| Identify functions | A1.2.1.1, A1.2.1.1.2, A1.2.1.1.3 | MarchApril  |
| Evaluate functions in function notation | A1.1.2.1.1, A1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.3 | MarchApril  |
| Write a linear function rule | A1.1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A1.2.2.1.4, A-CED.2 | MarchApril  |
| Write linear functions to model and solve real-world problems | A1.1.2.1.1, A1.1.2.1.3, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A1.2.2.1.4, A-CED.2, A-CED.3 | MarchApril  |
| Identify patterns within a sequence | A1.2.1.1, A1.2.2.1.1 | MarchApril |
| Identify arithmetic sequences | A1.2.1.1, A1.2.2.1.1 | MarchApril |
| Write a formula to model arithmetic sequences (explicit formula only!) | A1.1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.3, A1.2.2.1.4, A-CED.2 | MarchApril  |
| Graph arithmetic sequences | A1.1.2.1, A1.2.1.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.2, A1.2.2.1, A1.2.2.1.4, A-CED.2, A-REI.10 | MarchApril  |
| Solve problems involving arithmetic sequences | A1.1.2.1.1, A1.1.2.1.3, A1.2.1.1, A1.2.1.2, A1.2.1.2.1, A1.2.1.2.3, A1.2.2.1.2 | MarchApril  |
| Identify the association shown in a scatter plot | A1.2.1.1.1, A1.2.2.2, A1.2.3.2.2 | MarchApril  |
| Write the equation of a trend line for a scatter plot | A1.2.2.2, A1.2.2.2.1, A1.2.3.2, A1.2.3.2.2, A-CED.2, A-CED.3 | MarchApril  |
| Use the graph and/or equation of a trend line to make predictions | A1.2.2.2, A1.2.2.2.1, A1.2.3.2, A1.2.3.2.2, A1.2.3.2.3, A-CED.2, A-CED.3 | MarchApril  |
| Final Exam Review—all above content | Click or tap here to enter text. | May |

**ASSESSMENTS**

**PSSA Academic Standards, Assessment Anchors, and Eligible Content:** The teacher must be knowledgeable of the PDE Academic Standards, Assessment Anchors, and Eligible Content and incorporate them regularly into planned instruction.

**Formative Assessments:** The teacher will utilize a variety of assessment methods to conduct in-process evaluations of student learning.

**Effective formative assessments for this course include:** Suggested but not limited to: Observations, Evaluate written work, Evaluate oral response, student self-evaluation, Cooperative Learning, Homework, Classroom Diagnostic Tool, Exit ticket, quizzes, and projects

**Summative Assessments:** The teacher will utilize a variety of assessment methods to evaluate student learning at the end of an instructional task, lesson, and/or unit.

**Effective summative assessments for this course include:** Suggested but not limited to: Performance Assessment, Quizzes, and Chapter/Units Tests