WARREN COUNTY SCHOOL DISTRICT

PLANNED INSTRUCTION

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 greater than 75%.

Course Description: (Include "no final exam" or "final exam required")

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, and data analysis and probability. A final exam is required.

Suggested Grade Level: 9

Length of Course: _____ One Semester X Two Semesters _____ Other

(Describe)

Units of Credit: 1 **(Insert *NONE* if appropriate.)**

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

(Insert certificate title and CSPG#) CSPG # 50 Mathematics

Certification verified by WCSD Human Resources Department:

X Yes _____ No

Board Approved Textbooks, Software, Materials:
Title: Algebra I
Publisher: Prentice Hall Mathematics
ISBN #: 0-13-201577-3
Copyright Date: 2007
Date of WCSD Board Approval:

BOARD APPROVAL:

Date Written: August 2014

Date Approved: _____

Implementation Year: _____

Suggested Supplemental Materials: (List or insert **None**)
Kutasoftware.com
Pdesas.org

Course Standards

PA Core Standards: (List by Number and Description)
2.1 Numbers and Operations
2.2 Algebraic Concepts
2.4 Measurement, Data, and Probability

WCSD Academic Standards: (List or **None**)
None

Industry or Other Standards: (List, Identify Source or **None**)
None

SPECIAL EDUCATION AND GIFTED REQUIREMENTS

The teacher shall make appropriate modifications to instruction and assessment based on a student's Individual Education Plan (IEP) or Gifted Individual Education Plan (GIEP).

SPECIFIC EDUCATIONAL OBJECTIVES/CORRESPONDING STANDARDS AND ELIGIBLE CONTENT WHERE APPLICABLE

(List Objectives, PA Standards #'s, Other Standards (see samples at end))

PA Standard: 2.1 Numbers and Operations

	Performance Indicators
A1.1.1.1	Represent and/or use numbers in equivalent forms (e.g., integers, fractions, decimals, percents, square roots, and exponents).
A1.1.1.2	Apply number theory concepts to show relationships between real numbers in problem-solving settings.
A1.1.1.3	Use exponents, roots, and/or absolute values to solve problems.
A1.2.1.1	Analyze and/or use patterns or relations
A1.2.1.2	Interpret and/or use linear functions and their equations, graphs, or tables.
A1.2.2.1	Describe, compute, and/or use the rate of change (slope) of a line.

PA Standard: 2.2 Algebraic Concepts

	Performance Indicators
A1.1.1.4.1	Use estimation to solve problems.
A1.1.1.3.1	Simplify/evaluate expressions involving properties/laws of exponents, roots and/or absolute value to solve problems (exponents should be integers from -10 to 10).
A1.1.1.5.1	Add, subtract and/or multiply polynomial expressions (express answers in simplest form – nothing larger than a binomial multiplied by a trinomial).
A1.1.2.1.1	Write and solve a linear equation: including absolute value equations.
A1.1.2.1.2	Use and/or identify an algebraic property to justify any step in an equation solving process (linear equations only).
A1.1.3.1.1	Write or solve compound inequalities and/or graph their solution sets on a number line.
A1.1.3.1.2	Identify or graph the solution set to a linear inequality on a number line.
A1.2.2.1.1	Identify, describe and/or use constant rates of change.
A1.2.2.1.2	Apply the concept of linear rate of change (slope) to solve problems.
A1.2.2.1.3	Write or identify a linear equation when given • the graph of the line • 2 points on the line, or • the slope and a point on a line, (Linear equation may be in point-slope, standard and/or slope-intercept form).
A1.2.2.1.4	Determine the slope and/or y-intercept represented by a linear equation or graph.
A1.1.1.1.1	Compare and/or order any real numbers (rational and irrational may be mixed).
A1.2.1.1.1	Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.
A1.2.1.2.2	Translate from one representation of a linear function to another (graph, table and equation).
A1.2.1.1.2	Determine if a relation is a function given a set of points or a graph.
A1.2.1.1.3	Identify the domain or range of a relation (may be presented as ordered pairs, a graph, or a table).
A1.2.1.2.1	Create, interpret and/or use the equation, graph or table of a linear function

PA Standard: 2.4 Measurement, Data, and Probability

	Performance Indicators
A1.2.3.1	Use measures of dispersion to describe a set of data.

A1.2.3.2	Use data displays in problem-solving settings and/or make predictions.
A1.2.3.3	Apply probability to practical situations

ASSESSMENTS

PSSA Assessment Anchors Addressed: The teacher must be knowledgeable of the PDE Assessment Anchors and/or Eligible Content and incorporate them into this planned instruction. Current assessment anchors can be found at pde@state.pa.us.

Formative and Summative Assessments: The teacher will develop and use standards-based assessments throughout the course.

Suggested Assessments (but not limited to):
Observations
Evaluate written work
Performance assessment
Tests
Quizzes
Evaluate oral response
Self-evaluation
Cooperative Learning
Homework
Classroom Diagnostic Tool

Portfolio Assessment: _____ Yes __X__ No

District-wide Final Examination Required: __X__ Yes _____ No

Course Challenge Assessment (Describe):
Not Applicable

REQUIRED COURSE SEQUENCE AND TIMELINE

(Content must be tied to objectives)

Content Sequence

Variables, Functions, Patterns, Graphs

Properties of Real Numbers

Solving and Applying Equations

Solving and Applying Inequalities/Graphs and Functions

Graphs and Functions/Linear Equations: Forms and Graphs

Linear Equations, Forms & Graphs/Systems of Equations

Solving and Graphing Linear Inequalities/Systems of Linear Inequalities

Probability and Statistics

Exponential Rules

- **Refer to Course Map on Performance Plus for Additional Information**

Objectives:

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Construct viable arguments and critique the reasoning of others.
- Model with mathematics.
- Use appropriate tools strategically.
- Attend to precision.
- Look for and make use of structure.
- Look for and express regularity in repeated reasoning.

WRITING TEAM: Warren County School District Math Teachers

WCSD STUDENT DATA SYSTEM INFORMATION

1. Is there a required final examination? __X__ Yes _____ No
2. Does this course issue a mark/grade for the report card? __X__ Yes _____ No
3. Does this course issue a Pass/Fail mark? _____ Yes __X__ No
4. Is the course mark/grade part of the GPA calculation? __X__ Yes _____ No
5. Is the course eligible for Honor Roll calculation? __X__ Yes _____ No
6. What is the academic weight of the course?

   _____ No weight/Non credit __X__ Standard weight

   _____ Enhanced weight (Describe)