Warren County School District

PLANNED INSTRUCTION

COURSE DESCRIPTION

Course Title: __Algebra Concepts __

Course Number: __00206__

Course Prerequisites: __Score below 60% in Pre-Algebra OR at or below basic level on PSSA __

Course Description:
This course will include the essentials of Algebra for students scoring below 60% in Pre-Algebra or at the basic or below basic level on the PSSA. Algebra Concepts is an elective credit taken in preparation for a two-year sequence of Algebra 1A and Algebra 1B.

Suggested Grade Level: Ninth Grade

Length of Course: ☐ One Semester ☒ Two Semesters ☐ Other (Describe)

Units of Credit: __1 elective credit __ (Insert ***None*** if appropriate)

PDE *Certification and Staffing Policies and Guidelines* (CSPG) Required Teacher Certifications:
CSPG #50 Mathematics

Certification verified by WCSD Human Resources Department: ☒ Yes ☐ No

TEXTBOOK AND SUPPLEMENTAL MATERIALS

Planned Instruction reflects use of current Board approved textbook? ☐ Yes ☒ No
(*If YES, complete the current textbook information below. If NO, complete new textbook information to be approved.*)

Board Approved Textbooks, Software, Supplemental Materials:
Title: On Ramp to Algebra
Publisher: Pearson
ISBN #: 9780133241396
Copyright Date: 2013
Date of WCSD Board Approval:

BOARD APPROVAL:

Date Written: __07/13/15 __

Date Approved: __ _____ __

Implementation Date: 2015-2016

SPECIAL EDUCATION AND GIFTED REQUIREMENTS

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

COURSE OVERVIEW

I. Foundations of Algebra
- A. Reasoning with Diagrams
- B. Reasoning with Numbers
- C. Reasoning with Variables
- D. Conventions for Using Parenthesis
- E. The Number Properties
- F. Conventions and the Number Properties
- G. Using Variables in Formulas
- H. The Distributive Property
- I. Applying the Distributive Property
- J. The Inverses of Addition and Multiplication
- K. Relationship between Quantities
- L. Using Graphs to Represent Relationships
- M. Understanding the Problem Situation
- N. Representing Problem Situations
- O. Writing Formulas to Answer Questions

II. Operations with Fractions
- A. Adding and Subtracting Fractions
- B. Adding with Different Denominators
- C. Multiplying by a Whole Number
- D. Multiplying Fractions
- E. Finding Differences
- F. Addition and Subtraction as Inverses
- G. Shortest Distance
- H. Dividing Fractions
- I. Mixed Operations
- J. Shortest Time

III. Positive and Negative Numbers
- A. Extending the Number Line
- B. Putting Numbers in Order
- C. Adding with Negative Numbers
- D. Subtracting with Negative Numbers

E. Adding and Subtracting
F. Balloon Model
G. Reviewing Addition and Subtraction
H. Multiplying and Dividing
I. Order of Operations
J. Mixed Operations
K. Number Properties
L. Absolute Value
M. Word Problems

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IV. Ratio and Proportionality

A. Comparing Quantities
B. Representing Ratios
C. Unit Ratios and Equal Ratios
D. Ratio Tables
E. Solving Proportion Problems and Ratio Tables
F. Introducing Rates
G. Reviewing Ratio and Arithmetic
H. Enlarging and Reducing
I. Scale Factor and Ratio
J. Unit Price
K. Unit Conversion
L. Unit Analysis
M. Representing Proportional Relationships
N. Identifying Proportional Relationships
O. Graphing Proportional Relationships
P. Formulas and Proportional Relationships
Q. Introducing Functions
R. Inversely Proportional Relationships

V. Showing Relationships with Graphs

A. Building the Coordinate Plane
B. Constant Ratios and Graphing
C. How Steep is the lined?
D. Introducing Slope
E. Graphing Negative Values
F. Relationships Without a Constant Ratio
G. Graphing Geometric Relationships
H. Graphing Discrete and Continuous Data
I. Linear Graphs
J. Focus on Slope
K. Parallel and Perpendicular Lines
L. Solving Systems by Graphing
M. Interpreting Graphs

VI. Expressions, Equations and Exponents

A. Representing Quantities with Expressions
B. Evaluating Expressions
C. Exponents
D. Operations with Exponents
E. Expressions and Area Models
F. Combining Like Terms

G. Combining Quantities
H. Adding and Subtracting Expressions
I. Parenthesis and Exponents
J. Negative Exponents
K. Scientific Notation
L. Estimating Square Roots
M. The Pythagorean Theorem
N. Writing Equivalent Expressions
O. Using Expressions in Geometry
P. Writing Equations
Q. The Addition Property of Equality
R. The Multiplication Property of Equality
S. Solving Equations Requiring Simplification
T. Inequalities

For standards, essential questions, content, and skills see Curriculum Map – Click here to enter text.

ASSESSMENT

Portfolio Assessment: _____ Yes __X__ No

District-Wide Common Final Examination Required: __X___ Yes _____ No

Course Challenge Assessment (Describe)**:** This course cannot be challenged.

WRITING TEAM: Warren County School District Teachers

WCSD STUDENT DATA SYSTEM INFORMATION

1. Is there a required final examination? __X__ Yes _____ No
   Warren County School District Policy 9741 and9744 state, "All classes in grades 9-12 shall have a final exam."
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