WARREN COUNTY SCHOOL DISTRICT

Planned Instruction

Course Title: Integrated Algebra I

Course Number: 00207

Suggested Educational Level(s) 9-12

Suggested Periods Per Week: 5 **Length of Period**: 40 minutes

Suggested Length Of Course: 1 year

Units Of Credit (If Appropriate): 1 credit

Date Written: December 2004 **Date Approved**: June 13, 2005

Date Reviewed: 2004-2005 **Implementation Year**: 2005-2006

Teacher Certification Required: BS/BA Secondary Education /Mathematics

Standards Addressed (code):

2.1.11	Numbers, Number Systems, and Number Relationships
2.2.11	Computation and Estimation
2.3.11	Measurement and Estimation
*2.4.11	Mathematical Reasoning and Connections
2.5.11	Mathematical Problem Solving and Communication
2.6.11	Statistics and Data Analysis
2.7.11	Probability and Predictions
2.8.11	Algebra and Functions
2.9.11	Geometry
2.10.11	Trigonometry
2.11.11	Concepts of Algebra
	* This is a component of all other standards taught.

Relationship to Other Planned Instruction:

This course must be taken providing the student has passed Algebra Concepts or failed Applied Algebra I.

Prerequisites:

Algebra Concepts completed with a 60% average

Special Requirements

Scientific calculator
Graphing calculator
Software and computers

Modifications will be made for students with special needs.
Teachers will emphasize standards addressed in the PSSA Anchor Assessments

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COURSE DESCRIPTION:

Integrated Algebra I is the first course in a 3-year sequence of Integrated Algebra I, Integrated Algebra II with Geometry, and Applied Algebra IV. It is for students who have taken and completed Algebra Concepts with a 60% in Applied Algebra I. The course covers basic concepts of Algebra and Geometry.

Outline of Content Sequence and Recommended Time (weeks or days):

10 days	I.	Review
40 days	II.	Numbers and Operations
15 days	III.	Measurement and Computation
35 days	IV.	Functions, Linear Equations and Systems
**1-5 days		PSSA (review with test taking strategies)
20 days	V.	Quadratics and Polynomials
35 days	VI.	Graphing
15 days	VII.	Probability and Statistics
170 days		

Specific Educational Objectives to be Taught:

I. Review of Essentials

August to mid September

A. Applications of order of operations(M11.A.3.1.1)
B. Properties and their applications(M11.A.3.1.1)
C. Overview of fractions with calculator usage(M11.A.3.1.1)
D. Divisibility rules used in finding GCF and LCM(M11A.1..2, M11A.2.2.1)
E. Prime and composite numbers (M11.A.1.2.1, M11A.2.2.1)

II. Numbers and Operations

mid September to October

A. Express numbers and/or simplify expressions using scientific notation (M11.A.1.1.3)
B. Simplify expressions involving positive/negative exponents (M11.A.2.2.1)
C. Simplify expressions involving multiplying with exponents, powers of powers, etc. (M11.A.2.2.2)
D. Find square root of an integer (M11.A.1.1.2)
F. Solve problems using direct and inverse proportions (M11.A.2.1.1)
G. Identify and/or use proportional relationships in problem solving settings (M11.A.2.1.3)
GCF (M11.A.1.2.1)
H. Use estimation to check reasonableness of calculations of word problems (M11.A.3.2.1)
I. Use estimation to solve problems where an exact answer is not needed (M11.A.3.2.2)

III. Measurement and Computation

October

A. Measure and compare angles in degrees (M11.B.2.1.1)
B. Surface Area or volume (Use reference sheet) (M11.B.2.2.1)
C. Perimeter, Circumference, area of inscribed and circumscribed figures (M11.B.2.2.2)
D. Use Pythagorean Theorem to find sides of a triangle (M11.C.1.4.1)

IV.. Graphing

November to mid - January

A. Using a table of values (M11.E.4.2.2)
B. With x and y intercepts(M11.E4.2.1)
C. Using slope-intercept form (y = mx +b)(M11.A.3.1.1)
D. Using shortcuts from Standard form (Ax + By = C)(M11.A.3.1.1)
E. Apply slope formula of a line to solve problems; such as line of best fit (M11.D.3.2.1)
F. Match graph of a given function to its table/equation (M11.D.4.1.1
G.. Determining the maximum or minimum of a quadratic function (M11.4.1.3)

V. Functions and linear equations

January to mid February

A. Analyze data for existence of a pattern and represent patterns (M11.D.1.1.1)
B. Determine if a relationship is a function given a set of points or a graph (M11.D.1.1.2)

C. Solve systems of equations using graphing, substitution, addition, linear combinations (M11.D.2.1.4)
D. Write and/or solve a linear equation (of intermediate difficulty) (M11.D.2.1.3)
E. Graph linear functions using two variables (M11.D.4.1.2)

VI. Quadratics and Polynomials

A. Solve quadratic equations by factoring (no quadratic equation) (M11.2.1.5)
B. Working with polynomial expressions (adding, subtracting, multiplying, dividing (M11.D.2.2.1)

March & April

C. Apply slope formula of a line to sole problems (M11.D.3.2.1)
E. Match graph of a given function to its table/equation (M11.D.4.1.1)
F. Determining the maximum or minimum of a quadratic function (M11.D.4.1.3)

VII. Probability and Statistics

April & May

B. Determine measures of central tendency: mean, median, mode (M11.E.2.1.1.1)
C. Find and apply: range, quartiles, interquartile range, outliers (M11.E.2.1.2)
D. Develop probabilities for independent, dependent and compound events (M11.E.3.1.1)
E. Apply circle/line graphs to estimate and calculate predictions (M11.E.4.1.1)
F. Predict outcomes for permutations and combinations (M11.E.4.1.2)
G. Apply the Fundamental Counting Principle (M11.E. 4.2.1)

Required/Approved Textbooks and materials:

Book Title:	Algebra I
Publisher:	Glencoe/McGraw-Hill
ISBN #:	0-07-822894-8
Copyright:	2001
Date of Adoption:	August 12, 2004
Book Title:	Key Curriculum Workbooks (Key to Measurement, Key to Metric Measurement, Key to Algebra—Books 1 through 9)