<div style="border:1px solid black; padding:10px;">

WARREN COUNTY SCHOOL DISTRICT

Planned Instruction

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Course Title: ~~Algebra I – Grade 8~~ Honors Algebra I

Course Number: ~~00202~~

COURSE DESCRIPTION

Honors Algebra I is a course designed for those students able to complete calculus prior to entering college. Changes in our society and technology require a strong background in basic algebra skills. Therefore, algebra concepts are an integral part of all secondary mathematics courses. This course provides an intense study of algebraic theory that will be expanded in Algebra II Honors, Geometry Honors, and additional advanced math courses. It uses practical problems to apply the theory and connect algebra to the real world. Honors Algebra I is intended for college-bound students who have an aptitude or interest in mathematics. It provides them with the opportunity to complete an additional year of advanced mathematics.

Suggested Educational Level(s): 8th Grade

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

Suggested Length Of Course: 180 days

Units of Credit (If Appropriate): 1

Date Written: February 2, 2000   **Date Approved**: June 26, 2000 Revision Approved 8/8/11

Date Reviewed: **Implementation Year**: 2000/2001

Teacher Certification Required: BS/BA: Secondary Education/Mathematics

Standards Addressed (code):

2.1.11	2.5.11
2.2.11	2.8.11
2.3.11	2.9.11
2.4.11	

All 8th Grade Standards met in 7th Grade Advanced.

Relationship to Other Planned Instruction: Working towards 11th Grade.

Prerequisites: 7th Grade Advanced (to meet standards)

Special Requirements: Equipment: Scientific Calculators
                                            Graphing Calculators
                                            Computers
                            Academics: See Attachment A

Writing Team Members: Debbie Hasselman
                                Al Rial
                                Kathy Rogerson
                                Eileen Waldeck

Standards addressed (code and description):

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
2.8.11	Algebra and Functions
2.9.11	Geometry

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

15 days	I. Numbers and Variables
20 days	II. Working with Rational Numbers
36 days	III. Solving Equations, Inequalities and Problem Solving
19 days	IV. Graphs and Functions
17 days	V. Solve Systems or Equations
40 days	VI. Polynomials and Factoring
16 days	VII. Rational Expressions
17 days	VIII. Rational Expressions in Open Sentences
180 days	

Specific Educational Objectives to be Taught:

The students will be able to

I. Numbers and Variables
- Use the real numbers to
  - graph as points on a number line (2.1.11 A)
  - specify and graph sets of real numbers (2.1.11 A)
- Numerical and variable expressions
  - simplify (order of operations) (2.1.11 A)
  - evaluate (2.1.11 A)
  - simplify and evaluate expressions that contain exponents (2.1.11 A)
- Equations, inequalities and problem solving
  - solve one- and two-step (2.5.11 A & C)
  - translate expressions and sentences (2.2.11 A)

II. Work with Rational Numbers
- Use properties and absolute value to simplify expressions (2.1.11 A)
- Use basic operations of rational numbers to simplify expressions (2.1.11 A)

III. Solve Equations, Inequalities and Problem Solving
- Solve linear equations and inequalities (2.4.11 A, 2.5.11 A & C, 2.8.11 N)
- Solve problems using linear equations and inequalities (2.2.11 A & B, 2.9.11 I)
- Evaluate formulas (2.3.11 C)

IV. Graphs and Functions
- Graph ordered pairs of numbers on the coordinate plane and to find coordinates of any point (2.2v F & K)
- Identify and graph the domain and range of relations and functions (2.8.11 O)
- Graph linear equations and inequalities in two variables (2.2.11 F, 2.8.11 E, J, K & Q)
- Find the slope of a line (2.8.11 E & K)
- Use slope--intercept form of a linear equation (2.8.11 E & K)
- Graph using slope--intercept form (2.2.11 F, 2.8.11 E & K)
- Determine equation of a line (2.8.11 E & L)

V. Solve Systems of Equations
- Use graphs to solve systems of equations (2.2.11 F, 2.5.11 A & C, 2.8.11 F, G. H & N)
- Use linear combination to solve a system (2.5.11 A & C, 2.8.11 F, G & H)
- Use substitution to solve a system (2.5.11 A & C, 2.8.11 F, G & H)
- Problem solve
  - demonstrate wind/current/general number/digit situations (2.2.11 A, 2.5.11 A, B & C, 2.8.11 H)

VI. Polynomials and Factoring
- +, −, × polynomials (2.8.11 S & T, 2.1.11 A)
- Factor (2.8.11 S & T)
  - monomials
  - specials
  - quadratics
  - grouping
- Solve quadratic equations and word problems (2.2.11 A, 2.5.11 A, B & D, 2.8.11 N, 2.9.11 C)

VIII. Rational Expressions
- Divide polynomials (2.5.11 A & C)
- Simplify rational expressions
- Simplify +, −, ×, ÷ of rational expressions (2.5.11 A & C)
- Simplify complex fractions (2.5.11 A & C)

VIII. Rational Expressions in Open Sentences
- Solve open sentences involving percents (2.5.11 C)
- Solve rational equations and problems that contain (2.5v A, C, & D, 2.8.11 N)
  - fractional equations
  - number problems
  - work problems
  - motion problems

Formative Assessments (optional): Orleans-Hanna

Summative Assessments:

See attached sample.

Two or More Sample Units (optional):

WCSD STUDENT DATA SYSTEM INFORMATION

1. Is there a required final examination?   ____ Yes   **X** 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)_____

Special Requirements--Academic

Orleans-Hanna		10 pts
Iowa Basic		10 pts
Basic Math		10 pts
Grades *		12 pts
Teacher Recommendation **		8 pts
	Total	50 pts

40-50 points needed for Algebra I

* Grades

First through Third marking periods:	Above 93%	4 pts
	Above 84%	3 pts
	Above 70%	2 pts

Example: 94%   88%   98%
            4   +   3   +   4   =   11 pts

** Teacher Recommendation

Recommend strongly	8 pts
Recommend	4 pts
Do not recommend	0 pts