COURSE: ALGEBRA II

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TEXTBOOK: McDOUGAL LITTELL ALGEBRA 2
                           ISBN - 13: 978-0-618-59559-4

ADDITIONAL: SCIENTIFIC CALCULATOR
MATERIALS
RECOMMENDED

COURSE DESCRIPTION:

   The course begins with a review of mathematical methods covered in algebra and geometry. Algebraic topics new to students such as complex numbers, synthetic division and sequences will be explored. A study of conic sections, logarithms, probability and sequences will also be included.

STATE OF SOUTH DAKOTA MATHEMATICS STANDARDS COVERED

9-12.A.1.1.A. **Students are able to write <u>equivalent forms</u> of <u>rational algebraic expressions</u> using <u>properties of real numbers.</u>**

9-12.A.1.2.A**. Students are able to** extend **the use of <u>real number properties</u> to expressions** involving **<u>complex numbers</u>.**

9-12.A.2.1.A**. Students are able to** determine **solutions of <u>quadratic equations</u>.**

9-12.A.2.2.A. **Students are able to** determine **the <u>solution</u> of <u>systems of equations</u> and <u>systems of inequalities</u>.**

9-12.A.2.3.A. **Students are able to** determine **<u>solutions</u> to <u>absolute value statements</u>.**

9-12.A.3.1.A**. Students are able to** distinguish **between <u>linear</u>, <u>quadratic</u>, <u>inverse variation</u>, and <u>exponential</u> models.**

***9-12.A.3.2.A. **Students are able to** create **<u>formulas</u> to** model **relationships that are <u>algebraic</u>, <u>geometric</u>, <u>trigonometric</u>, and <u>exponential.</u>**

9-12.A.4.1.A**. Students are able to** determine **the <u>domain</u>, <u>range</u>, and <u>intercepts</u> of a function.**

***9-12.A.4.4.A. Students are able to <u>apply</u> properties and definitions <u>of</u> <u>trigonometric, exponential, and logarithmic expressions</u>.

9-12.A.4.5.A**. Students are able to** describe **<u>characteristics</u> of <u>nonlinear functions</u> and relations.**

9-12.A.4.6.A. **Students are able to <u>graph</u> solutions to <u>linear inequalities.</u>**

9-12.M1.1A. **Students are able to** use **<u>dimensional analysis</u> to check answers and** determine **<u>units</u> of a problem solution.**

9-12.N.1.1A. **Students are able to** describe **the relationship of the <u>real number system</u> to the <u>complex number system</u>**.

9-12.N.1.2A. **Students are able to** apply **<u>properties</u> and <u>axioms</u> of the <u>real number</u> <u>system</u> to various <u>subsets</u>, e.g., axioms of order, closure**

9-12.N.2.1A. **Students are able to** add, subtract, multiply**, and** divide **<u>real numbers</u> including <u>rational exponents</u>.**

GRADING:
        Primarily their scores on section quizzes and chapter tests determine a student's final grade. Homework will be assigned on a daily basis, and is a key component to the successful completion of this course. It may or may not be graded, based on instructor preference.

CLASS GUIDELINES:
        1. Students are expected to be active participants in class.
        2. Students should treat themselves, their classmates and teacher with respect.

***With the exception of the trigonometry standards, all the standards for algebraic, geometric, logarithmic and exponential functions are met. The trigonometry standards are met in a separate trigonometry course.