Course Syllabus

2018-2019

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**Purpose**

The goal of Advanced Math is to provide a strong foundation of precalculus concepts, techniques, and applications to prepare students for more advanced work. An emphasis will be place on discrete math and data analysis which have many daily applications. Technology is used as a tool to facilitate learning and doing math. Topics are presented in a way to encourage students to be actively involved and accommodate different learning styles. Development of students’ quantitative reasoning and problem-solving skills is encouraged as well as effective communication of mathematical ideas.

**Grading**

Grades will be entered into the computer in the following categories:

Daily

Assessments

However, quarter grades will be calculated as a percentage of total points earned and graded according to the 2018-2019 Sully Buttes grading scale:

94-100 A

87-93 B

79-86 C

70-78 D

69 and below F

Final grades will be calculated as follows:

First Quarter 50%

Second Quarter 50%

**Late Work**

Work is due at class time on the due date. With the exception of labs and special projects, this is generally 24 hours after assigned. Work that is one day late will receive no more than 90% of points earned. Two days late will receive another 20% reduction. After that, no points will be given but work must be turned in to result in removal from ICU.

Missing work due to an absence from school will be allowed two school days per day missed according to the student handbook. It is the responsibility of the student to obtain work missed due to an absence.

**ICU Policy**

Work not handed in 24 hours after the due date will result in the student being placed on ICU. Once placed on ICU, the student will not be removed from the list until ICU has been served AND the work has been handed in. I WILL NOT be interrupted during class to accept late work.

**Textbook**

Advanced Mathematics Precalculus with Discrete Mathematics and Data Analysis, Author Richard G. Brown, Published by McDougal Littell Inc.

Chapters covered: 1-8

**Course Objectives** (Standards) (taken from DOE website)

9-12.A.1.1. Students are able to write equivalent forms of algebraic expressions using properties of the set of real numbers.

**9-12.A.2.1. Students are able to use algebraic properties to transform multi-step, single-variable, first-degree equations.**

**9-12.A.2.2. Students are able to use algebraic properties to transform multi-step, single-variable, first-degree inequalities and represent solutions using a number line.**

9-12.A.3.1. Students are able to create linear models to represent problem situations.

**9-12.A.3.2. Students are able to distinguish between linear and nonlinear models.**

9-12.A.4.1. Students are able to use graphs, tables, and equations to represent linear functions.

**9-12.G.1.1. Students are able to apply the properties of triangles and quadrilaterals to find unknown parts.**

**9-12.G.1.2. Students are able to identify and apply relationships among triangles.**

9-12.N.1.1. Students are able to identify multiple representations of a real number.

**9-12.N.2.1. Students are able to add, subtract, multiply, and divide real numbers including integral exponents.**

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

**9-12.A.1.2A. Students are able to extend the use of real number properties to expressions involving complex numbe**

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

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

9-12.A.2.3A. Students are able to determine solutions to absolute value statements.

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

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

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

9-12.A.4.2A. Students are able to describe the behavior of a polynomial, given the leading coefficient, roots, and degree.

**9-12.A.4.3A. Students are able to apply transformations to graphs and describe the results.**

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

**9-12.A.4.6A. Students are able to graph solutions to linear inequalities.**

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

**9-12.A.4.6A. Students are able to graph solutions to linear inequalities.**

9-12.G.1.2A. Students are able to determine the values of the sine, cosine, and tangent ratios of right triangles.

**9-12.G.1.3A. Students are able to apply properties associated with circles.**

9-12.G.2.1A. Students are able to use Cartesian coordinates to verify geometric properties.

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

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

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