

Course Objectives/Course Outline
Spokane Community College

Course Title: Intermediate Algebra: A Modeling Approach

Prefix and Course Number: MATH 97

Course Learning Outcomes:

By the end of this course, a student should be able to:

- Identify acute, right and obtuse angles.
- Identify and construct acute, right and obtuse triangles.
- Solve triangles using similar triangles, and basic trigonometric functions.
- Use the Pythagorean theorem.
- Find perimeter, area, volume and surface area of geometric figures.
- Graph scatter plots.
- Distinguish between increasing and decreasing functions.
- Recognize a graph as linear, exponential, quadratic or other.
- Determine appropriate scales on a graphs axes to display data.
- Determine the domain and range of a function from a graph or a table of data.
- Graph linear, exponential, quadratic and logarithmic functions.
- Find the equation of a linear, exponential or quadratic function.
- Use linear, exponential and quadratic functions to model data.
- Model growth or decay by linear and exponential functions.
- Use technology to find the regression equation for data.
- Use technology and modeling to solve application problems.
- Solve linear, basic exponential and quadratic equations by hand and using technology.
- Apply properties of exponents to simplify expressions involving integer exponents.

Course Outline:

- I. Geometry:
 - A. Pythagorean Theorem
 - B. Congruent Triangles
 - C. Similar Triangles
 - D. Basic Trigonometry with Right Triangles
 - E. Perimeter/Area
 - F. Volume/Surface Area
- II. Linear Functions:
 - A. Function notation/ domain and range
 - B. Graphs
 - C. Rate of Change
 - D. Intercepts
 - E. Modeling and Applications
 - F. Systems of Linear Equations
 - G. Arithmetic Sequences
- III. Exponential Functions:
 - A. Function notation/ domain and range
 - B. Properties

- C. Graphs
- D. Modeling and Applications
- E. Geometric Sequences
- IV. Logarithmic Functions:
 - A. Function notation/ domain and range
 - B. Inverse Functions
 - C. Graphs
 - D. Modeling and Applications
- V. Quadratic Functions:
 - A. Graphs in Vertex Form
 - B. Graphs in Standard Form
 - C. Square Root Property
 - D. Quadratic Formula
 - E. Modeling and Applications