Syllabus for Pre-Calculus

Welcome to MA061, MA062: Pre-Calculus Part I and Pre-Calculus Part II!

Please read the information in this syllabus before proceeding to the course materials.

Credits: 1 course credit

Prerequisite: Algebra I, Geometry and Algebra II

Instructional Team

Teacher Contact Information
Chuck Corvin
ccorvin@jmhs.com

Our Academic Advisors are also available to help you when you need it. They are trained to provide tutoring in all subjects or answer your questions about the course or program.
Phone: 1-800-224-7234
Hours: 8:30AM – 8:30PM EST Monday-Friday

Textbook


Course Description

Pre-Calculus weaves together previous study of algebra, geometry, and mathematical functions into a preparatory course for calculus. The course focuses on mastery of critical skills and exposure to new skills necessary for success in subsequent math courses. Throughout the course, Common Core standards are taught and reinforced as the student learns how to apply the concepts in real life situations. Topics include fundamental concepts of Algebra, functions and graphs, polynomials and rational functions, exponential and logarithmic functions, trigonometric functions, analytic trigonometry, topics in trigonometry, systems of equations and inequalities, matrices and determinants, conic sections and analytic geometry, sequences, induction, probability, and an introduction to Calculus. Pre-Calculus Part I includes seven multiple choice lesson exams and a midterm written exam that requires the student to demonstrate understanding by showing work. Pre-Calculus Part II includes multiple choice lesson exams and a final written exam that requires the student to demonstrate understanding by showing work, as well as a multiple choice comprehensive final exam that will cover both parts I and II of Pre-Calculus.

Course Learning Objectives

Upon completion of this course, you should be able to:
- Recall and apply basic algebra skills.
- Recall the definition of a function, basics of functions and their graphs, function operations, and function transformations.
- Learn the basics of limits to help with the beginning of the calculus course.
- Recognize various kinds of functions (including polynomial, rational, radical, exponential, and logarithmic functions), analyze their behavior, and use the properties of these functions to solve equations and application problems.
- Define trigonometric functions; understand the right triangle trigonometry and unit circle.
- Know and apply identities involving the trigonometric functions.
- Recognize and solve systems of linear and nonlinear equations and inequalities.
- Recognize the use of arithmetic and geometric sequences, use summation notation to represent a series, understand and use the Binomial theorem and understand mathematical induction.
- Recognize conic sections and their geometric properties.
- Understand the basic concepts of limits

**Course Lessons**

The following lessons are covered in MA061: Pre-Calculus Part I:

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| Lesson 1 | Prerequisites
Lesson 1 Exam 0 (non-graded) | Review – Fundamental Concepts of Algebra |
| Lesson 2 | Chapter 1
Lesson 2 Exam 1 | Functions and Graphs |
| Lesson 3 | Chapter 2
Lesson 3 Exam 2 | Polynomials and Rational Functions |
| Lesson 4 | Chapter 3
Lesson 4 Exam 3 | Exponential and Logarithmic Function |
| Lesson 5 | Chapter 4
Lesson 5 Exam 4 | Trigonometric Functions |
| Lesson 6 | Chapter 5
Lesson 6 Exam 5 | Analytic Trigonometry |
| Lesson 7 | Chapter 6
Lesson 7 Exam 6
Midterm Exam 7 | Additional Topics in Trigonometry |
The following lessons are covered in MA062: Pre-Calculus Part II:

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