

2017 Honors Pre-Calculus Summer Course Outline

Welcome to Pre-Calculus!

Course Materials:

- Textbook: Advanced Mathematics: Precalculus with Discrete Mathematics and Data Analysis
 - ISBN-13: 978-0395551899
 - ISBN-10: 0395551897
- TI-84 or TI-Nspire Graphing Calculator
- Notebook + Writing Utensil

Course Description:

This course contains a rigorous study of functions, patterns, relations, and concepts of number systems studied in Pre-calculus. This includes polynomial, absolute value, radical, rational, trigonometric, exponential, and logarithmic functions. Topics covered range from topics learned in Algebra and Geometry, up to and including an introduction to Calculus. Different representations (algebraic, graphical, verbal, and numerical) of these functions will be emphasized, and applications of each topic are heavily integrated in the curriculum.

This course consists of a 6 week program, Monday-Friday, for four hours each day. Students will have 3-4 5-9 minute breaks each session.

Course Outline

All 20 chapters of the textbook will be covered during this 6 week course:

1. Linear and Quadratic Functions

2. Polynomial Functions
3. Inequalities
4. Functions
5. Exponents and Logarithms
6. Analytic Geometry
7. Trigonometric Functions
8. Trigonometric Equations and Applications
9. Triangle Trigonometry
10. Trigonometric Addition Formulas
11. Polar Coordinates and Complex Numbers
12. Vectors and Determinants
13. Sequences and Series
14. Matrices
15. Combinatorics
16. Probability
17. Statistics
18. Curve Fitting and Models
19. Limits, Series, and Iterated Functions
20. Introduction to Calculus

Grading Policy

Student progress will be assessed each day.

Tests will be given at the end of each chapter/unit and will count for 60% of the grade.

Quizzes will be given on days there are no tests for 35% of the grade.

- All student work on tests and quizzes must be shown to receive credit. Partial credit will be given for correct work
- All assessments will be made up on the day a student returns from an absence

Homework will be checked daily for 5% of the grade

- Homework is graded on a complete / incomplete basis.
- Each homework should be labeled with the correct assignment and date
- Late homework will only be accepted if a student is returning from an absence.