

SYLLABUS 12TH GRADE

CALCULUS

LIFE AHEAD® METHODOLOGY

Personal growth is assured through the philosophical foundations and the school's Life Ahead® Methodology. The Life Ahead® Methodology promotes autonomy, organization, responsibility, and social skills. Its major goal is to produce self-reliant individuals who will assume an ever-greater responsibility for their own learning.

COURSE DESCRIPTION

Topics include a brief review of polynomial, fractional expressions, exponential functions. Followed by an introduction and discussion of limits, derivatives, and applications of differential calculus to real-world problems application to Business. An introduction to integration concludes the course.

SKILL STRANDS

The students need to master:

- Factoring techniques learned since 8th grade.
- Master fractional expressions
- Working with rational exponents.
- Working with radicals.

OBJECTIVES

The students will be able to:

- Recall and apply basic Algebra skill like exponents and factoring.
- Perform operations with radicals.
- Recall, perform and simplify operations on Rational expressions.
- Evaluate functions and their operations.
- Graphing and analyze Functions: Piecewise, Linear, Quadratic, cubic, Quartic.
- Compute limits and derivatives of algebraic, trigonometric, and exponential functions.
- Apply limits and derivatives to Business problems to work with concepts of Cost, Revenue, Profit.

CONTENT

- Radicals. Rationalizing.
- Exponents: with rational and negative numbers.
- Rational expressions and functions.
- Functions, their operations, and their graphs
- Limits and applications to Business problems.
- Differentiation and applications to Business and Physics problems.

TEXTBOOK

- Text: Precalculus Larson Hostetler
- Reference book: Precalculus Holt, Rinehart

EXPECTATIONS

The student must:

- Be able to work during class time.
- Be able to respect the teacher and classmates.
- Be able to take notes during class time following special format
- Be able to catch up all the work done in class when absent.
- Be able to remain quiet when the teacher is explaining.
- Be able to wait for his/ her turn to ask and answer question.
- At the end of the year the student must
- Be able to
- Graph any function.
- Perform operations with functions.
- Find and interpret the limit of some functions.
- Interpret and find derivatives of algebraic, some trigonometric and exponential functions.
- Perform Curve sketching by hand based on derivatives.
- Apply derivatives to word problems

ASSESSMENT

60% Tests and Quizzes.

40% Homework and Quizzes

50 % Midterm.

50% Final

Midterm and Final Exam are the fifth period.

WEEKLY FOLDER

Every week each student is taking home a folder with quizzes and tests done in one or two week's 's period.

APPOINTMENTS:

If you have any questions, you can request a meeting with the teacher by sending an email to iamaya@colegiomaya.edu.sv or calling 2316-7800.

For further information, we invite you to visit us at:



www.colegiomaya.edu.sv



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