



**PLAN DE ESTUDIOS/SYLLABUS 2020-2021**  
SECUNDARIA/ SECONDARY SCHOOL  
**12avo GRADO**

**CALCULUS**

Mrs. Ana María Perla - [aperla@colegiomaya.edu.sv](mailto:aperla@colegiomaya.edu.sv)

**METODOLOGÍA LIFE AHEAD/LIFE AHEAD METHODOLOGY**

The School is following life's ahead methodology in the classroom.

1. The teacher explains and the students pay attention.
2. The students work independently to see if they have understood the topic.
3. The students work in groups to solve doubts and help other students.
4. The students have feedback of the work they did.

**COURSE DESCRIPTION**

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

**SKILL STRANDS**

The students need to master:

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

**OBJECTIVES**

To give the student all necessary tools for starting the Calculus Course.

**CONTENT**

- Radicals. Rationalizing.
- Exponents: with rational and negative numbers.
- Rational expressions and functions.
- Functions and their graphs
- Polynomial and rational functions.
- Complex numbers.
- Exponential and logarithmic functions and their graphs.
- Introduction to trigonometry
- Introduction to Vectors.
- Word problems using exponential functions.
- Exponential and logarithmic equations.

## TEXTBOOK

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

## 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.

## CITAS

Si necesita consultar o expresar alguna inquietud sobre el desarrollo o evaluación de la materia, puede solicitar una entrevista con el (la) docente en recepción al 2316-7800 o enviar correo electrónico a [iamaya@colegiomaya.edu.sv](mailto:iamaya@colegiomaya.edu.sv)

## INFORMACIÓN

Para mayor información lo invitamos a visitarnos en:



[www.colegiomaya.edu.sv](http://www.colegiomaya.edu.sv)



[/colegiomayadeelsalvador](https://www.facebook.com/colegiomayadeelsalvador)



[colegio.maya](https://www.instagram.com/colegio.maya)