

Syllabus and Learning Outcomes

Learning Outcomes:

- Evaluate functions
- Evaluate limits
- Identify the continuity and discontinuity of a function
- Differentiate algebraic functions

CONTENT

- ✓ FUNCTIONS
 - Representation, definition & types
 - Piecewise-defined
 - Composite
 - 1-to-1 and Inverse
- ✓ LIMITS AND CONTINUITY
 - Limit of a function
 - Properties
 - Limits of Transcendentals functions
- ✓ DERIVATIVE
 - Tangent of a Line
 - Differentiation Formula
 - Chain Rule
 - Higher Derivatives

Learning Outcomes:

- Differentiate transcendental functions
- Solve word problems
- Sketch the curve of a given function
- Write the equation of tangent & normal line to the curve
- Locate and classify critical points

CONTENT

- ✓ DERIVATIVE OF TRANSCENDENTAL FUNCTIONS
 - Trigonometric functions
 - Inverse trigonometric functions
 - Logarithmic functions
 - Exponential functions
- ✓ APPLICATIONS OF DERIVATIVES
 - Optimization Problems
 - Related Rates
- ✓ CURVE TRACING
 - tangent and Normal lines
 - Maxima and minima
 - Graph of a function

Learning Outcomes:

- Find the differential of a given function
- Solve the equations using Newton's Method
- Sketch a parametric equation
- Differentiate a parametric equation
- Differentiate a parametric equation & eliminate a parameter
- Find the partial derivative of a function

CONTENT

- ✓ THE DIFFERENTIAL
- ✓ SOLUTIONS OF EQUATIONS
- ✓ PARAMETRIC EQUATIONS
 - Sketching parametric equations
 - Derivative of Parametric equations
- ✓ PARTIAL DERIVATIVES
 - First Order partial derivatives
 - Higher derivatives

Grading System:

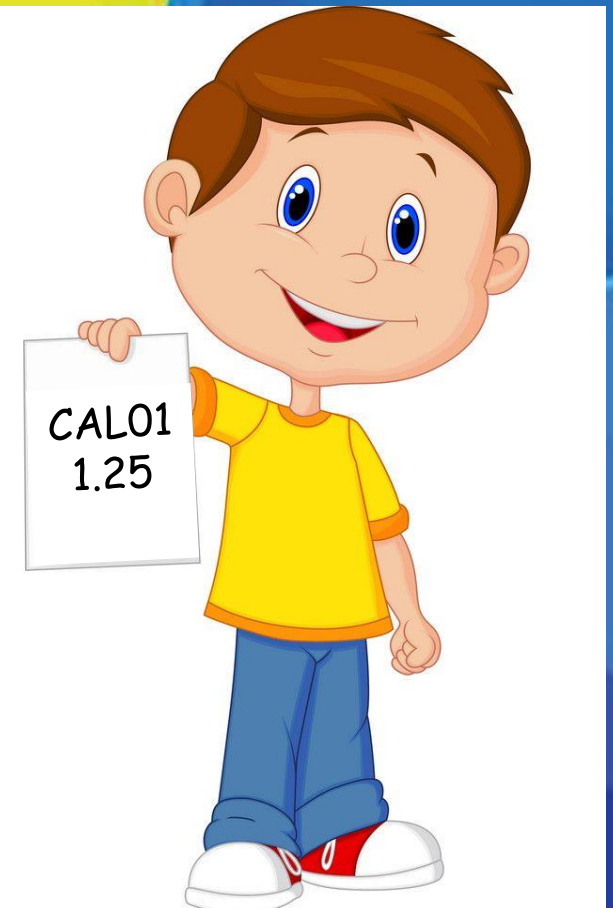
Major Exam 35%

Quizzes 35%

Practice Tasks 20%

Project 10%

Total : 100%





References:

- Leithold, Louis. (2002). *The Calculus 7*. Singapore: Pearson Education Asia Pte Ltd. **Mathematics** Love, Clyde E. & Earl D. Rainville. (1981).
- *Differential and Integral Calculus*. Philippines: The Macmillan Company.
- Olvido, Lucrecia R., et. al. (2016). *Pre-Calculus (For senior High School)*. Mandaluyong City, Philippines: Books Atbp. Publishing Corp.

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