

CH121	Calculus	Class : 1 st	Mandatory
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Teaching Scheme: **3hours** lecture and **1hour** tutorial per week. Credits : **6**

Course Description : *This subject covers the fundamentals of college algebra, including algebraic expressions and equations, and an introduction to functions.*

Learning Outcome :

Objectives :

- *This subject provides an overview of the concepts and results in complex analysis that may be useful in engineering.*
- *Also it gives an introduction to linear algebra and Fourier transform which are wealths of ideas and results with wide area of application.*

Learning outcome : *The learner will be able to recognize, describe and represent numbers and their relationships, and to count, estimate, calculate and check with competence and confidence in solving problems.*

Topics

1- Pre-requisites for Calculus (Coordinates, Slope, Straight line, Conic Sections)	10 Hours
2- Limits & Continuity	8 Hours
3- Derivatives 14Hours (1 st & 2 nd Derivative, Derivative of Series)	
4- Applications of Derivatives	14 Hours
5- Integration (Finite & Infinite Integration, Area under the curve)	14 Hours
6- Technique of Integration (Substitution by Triangular Functions, Ratios Partitions, Integration by Partitions)	16 Hours
7- Application of Integration (Volume, Length of the curve, Bounded Surface area)	20 Hours
8- Transcendental Functions	12 Hours
9- Matrices (Determinants, Grammar rule)	12 Hours

Text Book :Calculus by: Thomas, 12ve Edition