

MTH108 Calculus II

Level: 1

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY SEMESTER

Synopsis:

MTH108 will be a continuation to MTH107 and introduce students to integral calculus. Students will be exposed to computational techniques such as the various techniques to integration as well evaluating the derivatives of integrals and inverse functions and applications of integration such as areas between curves and volumes of cylindrical shells.

Topics:

- Anti-derivative
- Change of Variable
- Definite Integral
- Fundamental Theorems of Calculus
- Inverse Functions
- Logarithmic and Exponential Functions
- Inverse Trigonometric Functions
- Integration by Parts
- Integration by Substitution
- Integration by Partial Fractions
- Areas between curves
- Volumes of cylindrical shells

Textbooks:

James Stewart: Calculus: Early Transcendentals. International Metric Edition, 9th Cengage
ISBN-13: 9780357439197

Learning Outcome:

- Solve derivatives of certain integrals using Fundamental Theorem of Calculus.
- Determine the derivative of certain functions.
- Interpret limits of certain Riemann sums as definite integrals and vice versa.
- Show that certain reduction formula holds.
- Use various techniques of integration to evaluate integrals.
- Apply integration to find areas between curves or volumes of cylindrical shells.

Assessment Strategies (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	COMPUTER MARKED ASSIGNMENT 1	8
	TUTOR-MARKED ASSIGNMENT 1	16
	ADAPTIVE LEARNING SYSTEM 1	6
Overall Examinable Components	Written Exam	70
Total		100