

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:

by James Stewart: Calculus: Early Transcendentals. International Metric Edition (eTextbook) 8th edition
Cengage Learning
ISBN-13: 9789814875769

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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:

Continuous Assessment Component	Weightage (%)
COMPUTER MARKED ASSIGNMENT	10
TUTOR-MARKED ASSIGNMENT	20
Sub-Total	30

Examinable Component	Weightage (%)
Written Exam	70
Sub-Total	70

Weightage Total **100**