



University of Asia Pacific

Department of Basic Sciences & Humanities

Courses Title: Mathematics IV

Course Code: MTH 203 (CE)

Course Outline:

Differential Equation: Definition, Formation of Differential Equations

Solution of First Order Ordinary Differential Equations by Various Methods

Solution of Ordinary Differential Equation of First Order and Higher Degrees

Solution of General Linear Equations of Second and Higher Orders with Constant Coefficient

Solution of Euler's Homogenous Linear Equations

Fourier Analysis: Real and Complex Form Finite Transform

Fourier Integral

Fourier Transforms and Their Uses in Solving Boundary Value Problems

Laplace Transforms: Definition

Laplace Transforms of Some Elementary Functions

Sufficient Conditions for Existence of Laplace Transforms

Inverse Laplace Transforms

Laplace Transforms of Derivatives. The Unit Step Function Periodic Functions.

Some Special Theorems on Laplace Transforms

Partial Fraction

Solutions of Differential Equations by Laplace Transforms

Evaluation of Improper Integral



University of Asia Pacific

Department of Basic Sciences & Humanities

Courses Title: Mathematics IV

Course Code: MTH 203 (EEE)

Course Outline:

Transformation: Laplace Transforms: Definition

Transforms of Elementary Functions; Sufficient Conditions for Existence of Laplace Transforms

Inverse Laplace Transforms; Laplace transforms of Derivatives; Unit Step Function

Periodic Function; Some Special Theorems on Laplace Transforms; Partial Fraction; Solution of Differential Equations by Laplace Transforms; Evaluation of Improper Integrals.

Fourier Analysis: Real and Complex Form;

Finite Transform

Fourier Integral

Fourier Transforms and their Uses in Solving Boundary Value Problems.

Introduction to Z transforms.

First and Second order partial differential equations.

Wave equations.

Particular solutions in rectangular and cylindrical coordinates with boundary and initial conditions.