

101-2 Preliminary Syllabus, Da-Yeh Univ

Information			
Title	工程數學(二)	Serial No. / ID	0721 / MAI2002
Dept.	機械與自動化工程學系	School System / Class	大學日間部2年1班
Lecturer	鄭錕燦	Full or Part-time	專任
Required / Credit	Required / 3	Graduate Class	No
Time / Place	(二)34 / H439 (五)2 / H439	Language	Chinese

Introduction

Engineering mathematics is an important tool for exploring and resolving engineering problems. The objectives of this course are to expose students to the problems frequently encountered in engineering fields, to make students grasp the fundamental capability of engineering mathematics, and to apply mathematics in mechanical engineering fields. The contents of this course are: 1. Linear Algebra; 2. Vector differential/integral calculus; 3. Fourier series; 4. Partial differential equations.

Outline

Unit 1: Linear Algebra: Matrices, Vectors, Determinants, Linear Systems.

Unit 2: Vector Differential Calculus. Grad, Div, Curl.

Unit 3: Linear Algebra: Matrix Eigenvalue Problems.

Unit 4: Vector Integral Calculus. Integral Theorems.

Unit 5: Fourier Series, Integrals, and Transforms.

Unit 6: Partial Differential Equations (PDEs).

Prerequisite

English reading competence, fundamental mathematics, calculus.