國立台灣科技大學 114學年 第2學期　課程大綱

Spring 2026 NTUST Course Outline

授課教師：賴坤財

Instructor:Lay, Kuen-Tsair

課程名稱：工程數學(二)

Course Title：Engineering Mathematics (2)

2026/11/3

課程代號：ET3002301 Course Code 學分數：3 Credits	必選修：必修/半學年 Required/Electve:Required/Half Yr. 先修課程： Prerequisites
節次教室：R3(IB-503) R4(IB-503) T4(IB-503) Time/Location	
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	The students will learn the knowledge and computational techniques of Linear Algebra, which are indispensable for engineers. Linear Algebra can be addressed in two aspects - (1). matrix computations, and (2). vector space. The two aspects are related as such: (1). transformations and combinations of vectors can be implemented with operations on matrices for numerical evaluation, and (2). operations on matrices can be interpreted (in an abstract sense) as transformations and combinations of vectors in some vector space. Such relation between those two aspects and how they enhance each other will be emphasized in this course.
課程大綱： Outline of Lectures	Course outline: 1. Systems of Linear Equations and Matrices 2. Determinants 3. Vector Spaces 4. Linear Transformations 5. Eigenvalues and Eigenvectors 6. Inner Product Spaces
授課方式： Method of Instruction	講授 Lecture：90% 分組討論 Group discussion：0% 案例研討 Case study：0% 操做練習 Practical exercises：10% 講授 Lecture：%
教科書： Textbooks	Textbook: 1. Lecture handouts, as prepared by the lecturer, are distributed to the students via Moodle, in alignment with the progress of the course content. 2. S. J. leon and L. de Pillis, “Linear Algebra with Applications”, 10th Ed., Pearson Education, 2021 (distributed by 滄海圖書, in Taiwan)
參考書目： References	No reference book is assigned. Handouts are given, if necessary, instead.
修課須知： Notice	

	1. Lecture videos, recorded in two formats: EverCam and video camcoder, are provided as additional learning materials for the students. 2. This course is an EMI course. The lecturing is conducted in English. Therefore, the students should have the ability to understand, in reading and listening, basic English.
評量方式： Grading	Grading: 1. Quizzes: 20% 2. Midterm exam: 40% 3. Final exam: 40%
備註說明： Notes	N/A