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：Harry Hermawan

Instructor:Harry Hermawan

課程名稱：混凝土品質控制

Course Title：Quality Control of Concrete

2026/11/3

課程代號： TE2202301 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： Time/Location	F4(IB-410-2) M2(IB-410-2) M3(IB-410-2)
專業核心能力： Core Professional Competencies	■培養工程學理基礎。 ■運用數學、科學及工程知識的能力。 ■執行工程實務所需技術、技巧的能力。
課程網址： Course Website	NA
課程宗旨： Course Objectives	1) Understand the constituent of concrete materials 2) Design appropriate concrete mixes 3) Familiarize with common concrete testing methods 4) Develop an understanding of quality control principles 5) Encourage students to work/research on various types of concrete
課程大綱： Outline of Lectures	1. Introduction 2. Hydraulic Cements 3. Aggregates 4. Admixtures 5. Proportioning Concrete Mixes 6. Fresh Concrete 7. Microstructure of Concrete 8. Strength 9. Durability 10. Dimensional Stability 11. Quality Control 12. Special Types of Concrete
授課方式： Method of Instruction	講授 Lecture：80% 分組討論 Group discussion：10% 案例研討 Case study：0% 操做練習 Practical exercises：10% 講授 Lecture：%
教科書： Textbooks	Neville AM, Brooks JJ. Concrete Technology. Harlow, England: Pearson Education Limited; 2010. Dewar, J. Computer Modelling of Concrete Mixtures; 1999; ISBN 0419230203.
參考書目： References	ScienceDirect, MDPI, Google Scholar
修課須知： Notice	N/A
評量方式： Grading	20% Attendance, 20% Quizzes/Homeworks/Presentations, 30% Mid-term Exam, 30% Final Exam
備註說明： Notes	Basic English is required