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：田維欣

Instructor:Wei-Hsin Tien

課程名稱：熱傳學

Course Title：Heat Transfer

2026/11/3

課程代號： GD3705302 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	M4(TR-312) W6(TR-312) W7(TR-312)
專業核心能力： Core Professional Competencies	■ 運用數學、科學及工程知識的能力。 ■ 設計機械系統、元件、製程或材料設計、製造與跨域整合分析之能力。 ■ 能發掘、分析、應用研究成果及因應複雜且整合性工程問題之能力。 ■ 具有外語閱讀及溝通之能力。
課程網址： Course Website	https://moodle2.ntust.edu.tw/course/view.php?id=18737
課程宗旨： Course Objectives	This lecture is for undergraduate engineering students to learn the fundamental principles of heat transfer. It covers physical properties of conduction, convection, and radiation.
課程大綱： Outline of Lectures	Week 1: Introduction Week 2/3: Heat Conduction Equations Week 3/4: Steady Conduction Equations Week 5/6: Transient Heat Conduction Week 6: Numerical Methods in Heat Conduction Week 7: Midterm-Exam Week 8/9: Fundamentals of Convection Week 9/10: External Forced Convection Week 11/12: Internal Forced Convection Week 12/13: Natural Convection Week 14/15: Review/Supplementary Materials Week 16: Final Exam
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	Cengel, C.A. and Ghajar, A.J. 2015 Heat and Mass Transfer, Fundamentals & Applications. 5th Ed. or later, McGraw Hill, New York, USA.
參考書目： References	1. Theodore, L. 2011 Heat Transfer Applications for the Practicing Engineer. John Wiley & Sons, NJ, USA. 2. von Böckh, P. and Wetzel, T. 2012 Heat Transfer: Basics and Practices. Springer, Heidelberg, Germany

修課須知： Notice	1. No negotiation for the term grade. 2. Classroom rules: Please be on time and keep quiet during the lectures 4. In case online classes are necessary, please check the Moodle course website for more information
評量方式： Grading	1. Final term grade is determined from the midterm (50%) and final exam (50%) only. 2. Date of Exams: Midterm-4/15(at Wed. scheduled class time), Final Exam-6/10(at Wed. scheduled class time)
備註說明： Notes	Prerequisites: None, but thermodynamics and fluid mechanics are strongly recommended