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：周碩彥

Instructor:Shuo-Yan Chou

課程名稱：工程經濟

Course Title：Engineering Economics

2026/11/3

課程代號： IM3302701 Course Code 學分數： 3 Credits	必選修：選修/半學年 Required/Electve:Elective/Half Yr. 先修課程： Prerequisites
節次教室： Time/Location	F6(IB-511-2) F7(IB-511-2) F8(IB-511-2)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	Learning and practicing basic approaches for time-based economic analysis, that is, estimating, comparing and making choices based on the value of alternatives/projects spanning over time.
課程大綱： Outline of Lectures	Weeks Topics EEcon-1 • Overview EEcon-2 • Overview; Financial Statement and Ratios EEcon-3 • Cost and Cost Estimation; Time Value of Money EEcon-4 • Equivalence EEcon-5 • Equivalence; Benefit/Cost Ratio EEcon-6. • Holiday - No class EEcon-7 • Holiday - No class EEcon-8 • Present/Future Worth; Annual Worth; Breakeven Analysis EEcon-9 • Evaluating Mutually Exclusive Projects; Rate of Return EEcon-10 • Depreciation; Income Taxes EEcon-11 • Developing Project Cash Flow; Inflation EEcon-12 • Risk Management; Sensitivity Analysis; Decision Trees EEcon-13 • Project Presentation EEcon-14 • Midterm/Final Exam EEcon-15 • Project Presentation EEcon-16 • Final Exam Week
授課方式： Method of Instruction	講授 Lecture：90% 分組討論 Group discussion：0% 案例研討 Case study：10% 操做練習 Practical exercises：0% 講授 Lecture：%
教科書： Textbooks	William G. Sullivan, Elin M. Wicks, and C. Patrick Koelling, Engineering Economy, 16th Edition, Pearson Education, 2014. (or 17th Edition)
參考書目： References	Chan S. Park, Contemporary Engineering Economics, Prentice Hall, 4th Edition, 2010. Leland Blank and Anthony Tarquin, Basics of Engineering Economy, McGraw Hill, 2007

修課須知： Notice	Groups are formed for the purpose of pre-class discussion and projects. Each group is allowed with up to 3 students. A group leader/champion needs to coordinate the activities within the group as well as to serve as the window of contact.
評量方式： Grading	There will be a midterm written exam, a closed-book exam except for an A4 double sided cheat sheet. Non-programmable calculators are allowed to be used for the exam. Class attendance 10% Homework 30% Midterm 30% Project 30%
備註說明： Notes	修課須知： Two homework will be assigned and will be due on the next class time. Each project report/presentation needs to have three main elements: project statement (an engineering economic problem), economic analysis (analysis detained in spreadsheet and justification), recommended alternative with managerial insights. Project topics are open. Project reports will be presented at the end of the semester. 授課方式： Method of Instruction： 講授Lecture：70%、案例研討Case study：20%、操作練習Practical exercises：20%