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：陳羽薰

Instructor:Yu-Hsun Chen

課程名稱：創意性機構設計

Course Title：Creative Mechanism Design

2026/11/3

課程代號： ME5213701 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	T6(TR-616) T7(TR-616) T8(TR-616)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	本課程旨在教導學生一系列工程創造力與系統化創意性機構設計技法，並藉由電腦模擬軟體之輔助，完成機構設計中所需要考慮之所有必要程序。本課程著重在創意與工程設計技法的結合，課程內容較未涵蓋艱深複雜之數學公式及計算，適合各工程電資學院學生選修，亦歡迎具工程基礎背景之其他學院學生選修。學生在修習完本課程後，將能有效地結合創意與機構與工程設計中的專門理論，進行新型機構之創意設計或現有機構之改良設計。本課程尤適合從事機構設計相關研究或專題製作之研究所學生與大學部學生選修。 This course aims to teach students a series of engineering creative methods and a systematic creative mechanism design approach associated with the fundamental mechanism design techniques by using computer software. The content focuses majorly on the integration of creativity and engineering design, while the relevant, advanced mathematic derivation for mechanism design is less concerned here. Therefore, this course is suitable for not only all engineering-based students but also other non-engineering-based students who are equipped with fundamental engineering knowledge. Based upon the completion of this course, students will be able to effectively incorporate their creativity and mechanism and engineering design knowledge to create novel mechanisms, improve existing mechanisms, and analyze their created or improved designs. This course is particularly contributive to those postgraduate and undergraduate students who are or will be embarking research on mechanism design or its related disciplines.
課程大綱： Outline of Lectures	1.何謂「機構」、「機構設計」、與「工程設計」？ 2.「創意」與「創新」 3.專利迴避 4.工程設計及機構設計流程 5.工程創造力 6.工程創意技法 7.創意性機構設計方法 8.尺寸合成 9. 電腦輔助機構設計 10. 設計專題
授課方式： Method of Instruction	講授 Lecture：% 分組討論 Group discussion：% 案例研討 Case study：%

操做練習 Practical exercises：% 講授 Lecture：%
教科書： Textbooks
參考書目： References
修課須知： Notice
評量方式： Grading
備註說明： Notes