

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：林時旭

Instructor: Lin, Shih-Hsu

課程名稱：機構設計

Course Title : Mechanism Design

2026/5/6

<p>課程代號：DT2511701 Course Code 學分數：3 Credits</p>	<p>必選修：選修/半學年 Required/Elective: Elective/Half Yr. 先修課程： Prerequisites</p>
<p>節次教室：M6(RB-411) M7(RB-411) M8(RB-411) Time/Location</p>	
<p>專業核心能力： Core Professional Competencies</p>	
<p>課程網址： Course Website</p>	
<p>課程宗旨： Course Objectives</p> <p>本課程介紹在工業設計領域中設計人員所必須建立的機構設計觀念及原則的了解。在課程中除了理論講授之外，經由設計實作、討論及相關文章之閱讀以增加同學對於機構的基本認識、更重要的是在工業設計領域中經由了解及檢視以人為中心的觀點所產生的洞見來應用所學習到的機構設計觀念及原則。 This course examines the issues, principles, and challenges toward building mechanism in the field of industrial design, through a combination of studio-style design and critique, along with lecture, lively discussion of course readings, and assignments. Most importantly, insights from human-centered approach will be examined, as well as how these ideas are manifested in a broad range of applications for industrial design.</p>	
<p>課程大綱： Outline of Lectures</p> <ol style="list-style-type: none"> 1 解決對策TRIZ (法則總匯) 應用設計練習 2 師法自然(形從機能) 應用設計練習 3 基本構成 (幾何造形與結構) 應用設計練習 4 異材質組合與連結方式 (搭接/固定與複合結構) 應用設計練習 5 力量傳遞 (傳動效率) 應用設計練習 6 動態連桿 (自行車避震搖臂) 應用設計練習 7 整合機構成果 <ol style="list-style-type: none"> 1. Solution TRIZ (Compendium of Principles) Application Design Exercise 2. Learn from nature (form follows function) Application Design Exercise 3. Basic composition (geometric shapes and structures) Application Design Exercise 4. Combination and connection of different materials (lap joint/fixed and composite structure) Application Design Exercise 5. Power transmission (transmission efficiency) Application Design Exercise 6. Dynamic Link (Bicycle Suspension Swingarm) Application Design Exercise 7. Integrate institutional achievements 	
<p>講授 Lecture : 0%</p>	

授課方式： 分組討論 Group discussion：0%
Method of Instruction 案例研討 Case study：0%
操做練習 Practical exercises：0%
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