

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：李兩青

Instructor: Lee, Yu-Ching

課程名稱：靜力學

Course Title : Statics

2026/5/6

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| 課程代號：GD2103302<br>Course Code<br>學分數：3<br>Credits   | 必選修：必修/半學年<br>Required/Elective: Required/Half Yr.<br>先修課程：<br>Prerequisites |
| 節次教室：R8(TR-510) T8(TR-510) T9(TR-510) W10(TR-510)<br>Time/Location  |  |
| 專業核心能力：培養學生空間位置與力及力矩的表示與分解結合、質點及剛體力平衡之條件等各項核心能力。<br>Core Professional Competencies  |  |
| 課程網址：<br>Course Website   |  |
| 課程宗旨：本課程旨為介紹工程力學中的靜力學概念。靜力學主要探討質點和剛體系統於二維和三維中靜力平衡時的結構受力情況。課程內容涵蓋集中力與分佈力、重心與形心、慣性矩等主題。本課程將著重於桁架、結構、梁和繩索中的受力分析。對於機械工程的學生來說，靜力學是基礎的工程課程，在機械工程或土木工程等領域，靜力學在結構設計與分析中非常重要，因為結構在承受負載或工作時，其外觀形狀必須保持不變，並且本門課程中的會忽略結構的動態行為(無系統加速度力)，因此探討靜力問題會考慮忽略系統的加速度；本門課程亦為材料力學和機械設計的基礎知識，期望同學課前課後做好預習和複習的工作 This course is designed to give you an introduction to engineering mechanics in static systems. Statics deals with two- and three-dimensional systems of particles and rigid bodies in static equilibrium. Additional topics include concentrated and distributed forces, centers of gravity and centroids, and moments of inertia. Special attention is devoted to forces in frames, structures, beams, and cables. For many of you, this will be your first engineering course. In fields such as mechanical or civil engineering, statics is indispensable in the design and analysis of structures that must hold their shape while bearing a load or performing a task where dynamic forces (forces arising from acceleration of the system) are absent or negligible. |  |
| 課程大綱：本課程旨為介紹工程力學中的靜力學概念。靜力學主要探討質點和剛體系統於二維和三維中靜力平衡時的結構受力情況。課程內容涵蓋集中力與分佈力、重心與形心、慣性矩等主題。本課程將著重於桁架、結構、梁和繩索中的受力分析。對於機械工程的學生來說，靜力學是基礎的工程課程，在機械工程或土木工程等領域，靜力學在結構設計與分析中非常重要，因為結構在承受負載或工作時，其外觀形狀必須保持不變，並且本門課程中的會忽略結構的動態行為(無系統加速度力)，因此探討靜力問題會考慮忽略系統的加速度；本門課程亦為材料力學和機械設計的基礎知識，期望同學課前課後做好預習和複習的工作 This course is designed to give you an introduction to engineering mechanics in static systems. Statics deals with two- and three-dimensional systems of particles and rigid bodies in static equilibrium. Additional topics include concentrated and distributed forces, centers of gravity and centroids, and moments of inertia. Special attention is devoted to forces in frames, structures, beams, and cables. For many of you, this will be your first engineering course. In fields such as mechanical or civil engineering, statics is indispensable in the design and analysis of structures that must hold their shape while bearing a load or performing a task where dynamic forces (forces arising from acceleration of the system) are absent or negligible. |  |
| 講授 Lecture : 100%   |  |

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| 授課方式：<br>Method of<br>Instruction | 分組討論 Group discussion：0%<br>案例研討 Case study：0%<br>操做練習 Practical exercises：0%<br>講授 Lecture：% |
| 教科書：<br>Textbooks                 | Engineering Mechanics, Statics, 15th Edition in SI Units, by R. C. Hibbeler                   |
| 參考書目：<br>References               |   |
| 修課須知：<br>Notice                   | 演算課時間：週三W10<br>TA:許峻睿 校內分機 5323 Email：M11403111@mail.ntust.edu.tw                             |
| 評量方式：<br>Grading                  | 期中考 40% 期末考 40% 小考(平時成績)20%   |
| 備註說明：<br>Notes                    | 微積分   |