

車輛動態學

114-2 開課

♡ 收藏

加入預選

流水號
36436

課號
<> ME5059

課程識別碼
IIII 522 U6350

無分班

3 學分

選修
機械工程學系 / 工學院院學士學位 / 機械工程學研究所



詹魁元



五 2, 3, 4

機皮教室

2 類

修課總人數 42 人
本校 42 人

領域專長
電動車設計與實務

英文授課

NTU COOL

核心能力與課程規劃關聯圖

目 備註

機械系 本課程以英語授課。機械系系定選修。領域專長-電動車設計與實務

工學院院學士 本課程以英語授課。領域專長-電動車設計與實務。

機械所 本課程以英語授課。領域專長-電動車設計與實務

↗ 本校選課狀況

已選上	剩餘名額	已登記
31 / ₄₂	11	0

目 課程概述

This course provides a comprehensive study of vehicle dynamics, emphasizing the theoretical foundations and practical applications for modeling and simulating vehicle behavior. Using a flipped classroom approach, students will engage with lecture material before class, and class time will be used for problem-solving, discussion, and hands-on activities. The focus is on enabling students to derive dynamic equations, analyze vehicle behavior, and construct complete vehicle models using software such as Simulink.

🕒 課程目標

1. Derive dynamic equations for vehicle motion.
2. Analyze vehicle behavior under various conditions, including straight-line motion, cornering, and braking.
3. Model and simulate vehicle dynamics using software such as Simulink.
4. Understand the influence of tire characteristics, weight transfer, and suspension systems on vehicle performance.
5. Critically evaluate different vehicle designs and control strategies.

≡ 課程要求

This course employs a flipped classroom approach. Students are expected to watch recorded lectures and complete assigned readings before each class session. Class time will be used for active learning activities, including problem-solving, discussions, group work, and individual exercises. Emphasis will be placed on the practical application of concepts through modeling and simulation.

In-class assignments will be used for assessment and will be graded immediately after class to provide quick feedback.

預期每週課前或/與課後學習時數

2 hrs

Office Hour

指定閱讀

Performance Vehicle Dynamics: Engineering and Applications by James Balkwill.

參考書目

Essentials of Vehicle Dynamics by Joop Pauwelussen.

Fundamentals of Vehicle Dynamics by Thomas Gillespie.

評量方式

40%	In class assignments and participations
60%	Team Project

1. 本校尚無訂定 A+ 比例上限。
2. 本校採用等第制評定成績，學生成績評量辦法中的百分制分數區間與單科成績對照表僅供參考，授課教師可依等第定義調整分數區間。詳見 [學習評量專區](#)。

針對學生困難提供學生調整方式

調整方式	說明
A2	以錄影輔助 Assisted by video
B6	學生與授課老師協議改以其他形式呈現 Mutual agreement to present in other ways between students and instructors
D1	由師生雙方議定 Negotiated by both teachers and students

補課資訊

特別贊助 |  華南銀行
HUA NAN BANK

臺大課程網

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