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：項人宗

Instructor:Jen-Tsung Hsian

課程名稱：物理(下)

Course Title：Physics (II)

2026/11/3

課程代號： EC163B011 Course Code 學分數： 3 Credits	必選修：必修/全學年 Required/Electve:Required/Full Yr. 先修課程： Prerequisites
節次教室： Time/Location	R3(IB-308) R4(IB-308) T2(IB-308) TA(TR-412-2)
專業核心能力： Core Professional Competencies	運用數學、科學及工程知識的能力。 規劃與執行實驗，並具解析數據之能力。 執行工程實務所需技術、技巧及使用現代化工具的能力
課程網址： Course Website	https://moodle2.ntust.edu.tw/course/view.php?id=18257
課程宗旨： Course Objectives	In this semester, we mainly cover the advanced topics in dynamics such as rigid-body motion, rotation, wave phenomena as well as electromagnetism. Thermodynamics and geometric optics will be optional. This will provide the sufficient background knowledge to the students in the EE and CS background for their advanced courses like electrodynamics, (classical/quantum) optics, and electric circuits.
課程大綱： Outline of Lectures	電場、高斯定律、電位與電容、磁場、法拉第定律與電感、直流與交流電路、電磁波; electric field, Gauss's law, potential, capacitance, magnetic field, Faraday's law, inductance, DC/ AC circuits, electromagnetic field
授課方式： Method of Instruction	講授 Lecture：75% 分組討論 Group discussion：25% 案例研討 Case study：0% 操做練習 Practical exercises：0% 講授 Lecture：%
教科書： Textbooks	1. Physics for Scientists and Engineers with Modern Physics, 10th Edition, 2. OpenStax Physics (it is free: https://assets.openstax.org/oscms-prodcms/media/documents/University_Physics_Volume_2_-_WEB.pdf), 3. Lecture notes
參考書目： References	Princeton Press - Modern Classical Physics, by Kip S. Thorne, Roger D. Blandford Cambridge Press - Introduction to Electrodynamics, 5th Edition, by David J. Griffiths
修課須知： Notice	1. Meet every Tues: 09:10 AM~10:00 AM, and Thurs: 10:20 PM~12:10 AM 2. TA demo class: every Tues: 06:25 PM~07:15 PM -- (TA will make further announcement). TA will work out the additional textbook examples, and Q&A for the homework problems.
評量方式： Grading	Homework: 30%, Presentations: 10%, Quiz: 10%, Exame: 50% (Final: 25%, Mid-term: 25%), No makeups

備註說明： Notes	1, will assign the preview material before class 2 will have a quiz during the TA class roughly every two weeks 3. usually one HW per week 4. 60% of credits if the homework is past due