



課 綱 Course Outline  
通識教育中心學士班

中文課程名稱 Course Name in Chinese	生活物理				
英文課程名稱 Course Name in English	Everyday physics				
科目代碼 Course Code	GC_67830	班 別 Degree	學士班 Bachelor's		
修別 Type	選修 Elective	學分數 Credit(s)	2.0	時 數 Hour(s)	2.0
先修課程 Prerequisite					
課程目標 Course Objectives					
這門課教授日常生活會遇到的物理現象，增進學生對日常物理有基礎認識。 The course will look at the physics behind several everyday phenomena. Students will understand everyday physics through various physical phenomena.					
(校)教育目標 Objectives of General Education					
1	在地關懷與全球視野 Develop domestic and global perspectives				
2	人文素養與科學知識 Achieve humanistic values and scientific literacy				
3	全人健康與永續創新 Holistic Wellness and Sustainable Innovation				
(校)核心能力 Learning Outcomes				課程目標與校核心能力相關性 Correlation between Course Objectives and Basic Learning Outcomes	
A	自主學習與創新思考 Autonomous Learning and Creative Thinking				●
B	康健身心 Physical Fitness and Mental Balance				○
C	互動、溝通與解決問題 Interactive Communication and Problem Solving				●
D	情藝美感 Artistic Feeling and Aesthetic Perception				○
E	文化素養與尊重差異 Cultural Literacy and Respect for Differences				●

F	在地關懷與公民責任 Local Commitment and Civic Responsibility	○
圖示說明Illustration：● 高度相關 Highly correlated ○ 中度相關 Moderately correlated		
課程大綱 Course Outline		
<p>這門課介紹生活中常見但被忽略的物理現象。內容包含熱力學、流體的特性、基本的力學、電磁學及光學、干涉、波動和天文學。</p> <p>每一節課將以一個日常可觀察到的現象來進行剖析。如果實驗所需的設備可以攜帶至教室則直接在課堂展示，否則以影片觀察為主。教師至少展示或講解10個主題。學生必須透過自己觀察其它未被涵蓋的現象，並錄製短片或撰寫小論文來闡述這個現象。學生的題目必須可在家裡重複且安全操作的實驗。本課程不鼓勵有危險性的研究。</p> <p>The course will look at the physics behind several everyday phenomena. Physics topics addressed in this course include thermodynamics, properties of fluids, basic mechanics, electricity and magnetism, waves, optics and astronomy.</p> <p>Each lesson begins with an everyday observable phenomenon. If the equipment to repeat this phenomenon can be brought to the classroom, it will be displayed directly in the classroom, otherwise, it will be mainly for video observation. The teacher presents at least 10 topics. Students must practice an observation which is not been covered in the classes, and record a short video or write a short essay to illustrate this phenomenon. The student's project must be an experiment that can be repeated and safely performed at home. Risky research is discouraged in this course.</p>		
資源需求評估（師資專長之聘任、儀器設備的配合．．．等） Resources Required (e.g. qualifications and expertise, instrument and equipment, etc.)		
投影機、攝影機、尺規、磁粉…等。		
課程要求和教學方式之建議 Course Requirements and Suggested Teaching Methods		
<p>這門課教學方式是透過一個日常可見的物理現象開始剖析裡面所蘊含的物理概念。如果器材可以方便攜帶到教室，則以實物展示為主。如果器材不允許，將以放映影片的方式呈現。之後教師將實際的現象和物理學的術語連接並加以闡述。</p> <p>學生必須了解擁有中學程度的數學和自然科學的知識。同時學生必須有意願去觀察日常生活中的現象並向同學闡述自己的理解。</p> <p>The lecturer will demonstrate an everyday visual physical phenomenon. If the equipment to repeat this phenomenon can be brought to the classroom, it will be displayed directly in the classroom, otherwise, it will be mainly for video observation. After the demonstration, the lecturer will explain the phenomenon.</p> <p>Students must have knowledge of high school mathematics and science. At the same time, students must be willing to observe phenomena in everyday life and explain their understanding to their classmates.</p>		
其他 Miscellaneous		
<p>觀察報告可以提升同學對環境的觀察能力。</p> <p>Students can understand everything in their daily lives.</p>		