

Secondary Schools - The Hong Kong University of Science and Technology (HKUST)

Dual Program 2023

中學／大學雙修課程 2023

Course Syllabus 課程大綱

Course Information 課程資料	Pre-stage Level (Physics) 預備階段 (物理)
Course Instructors 課程導師	Dr NG Yee Fai (Department of Physics) 吳誼暉博士 (物理學系)
Medium of Instruction 教學語言	English 英語授課
Time 上課時間	Lecture: 2:00 pm - 5:00 pm, Tutorials: 2:00 pm – 4:00 pm
Venue 地點	HKUST Campus 香港科技大學

Course Objectives 課程目標

This course is designed as a bridging course for Dual Program Level 1 Physics. Mathematics is indispensable for studying physics. The course provides students with the necessary mathematical foundation for proceeding to Level 1 and level 2 Physics. The topics include functions, calculus, vectors, and complex numbers.

這課程是為銜接雙修課程階段一物理學而設計的。對於學習物理學，數學是不可或缺的。這課程涵蓋的數學課題包括函數、微積分、向量及複數，為學生晉升物理階段一及階段二打好基礎。

Assessment 評核方式

Classwork / Assignment / Final Assessment (No make-up assessment is arranged)

課堂練習／作業／期終評估（不安排後補評估）

Remarks 備註

1. Course schedule and content are subject to change if necessary.
課程時間表及內容為暫定，會應需要而變更。
2. Outstanding students will be promoted to DP Level 1.
表現優異的同學可晉升雙修課程階段一。

DP Pre-stage Level (Physics) — Course Schedule

雙修課程 預備階段（物理）— 課程時間表

Session 節次	Date 日期	Topic 課題
1	25/11/2023 (Sat)	Functions, Inverse Functions and Composite Functions 函數、反函數及複合函數
2	2/12/2023 (Sat)	Trigonometric Functions 三角函數
3	9/12/2023 (Sat)	Exponential and Logarithmic Functions 指數函數及對數函數
n/a	16/12/2023 (Sat)	Online Tutorial 網上導修課 (2:00 – 4:00 pm)
4	6/1/2024 (Sat)	Limits and Derivatives 極限和導數
5	13/1/2024 (Sat)	Differentiation Rules 微分法則
6	20/1/2024 (Sat)	Differentiation of Trigonometric Functions 三角函數求導
7	27/1/2024 (Sat)	Differentiation of Exponential and Logarithmic Functions 指數函數及對數函數求導
8	3/2/2024 (Sat)	Applications of Differentiation 微分之應用
9	17/2/2024 (Sat)	Indefinite Integration: Change of Variables and Integration by Parts 不定積分：換元積分法及分部積分法
n/a	24/2/2024 (Sat)	Online Tutorial 網上導修課 (2:00 – 4:00 pm)
10	2/3/2024 (Sat)	Definite Integration: Fundamental Theorems of Calculus 定積分：微積分基本定理
11	9/3/2024 (Sat)	Applications of Definite Integration 定積分之應用
12	16/3/2024 (Sat)	Applications of Definite Integration (Cont'd) 定積分之應用（續）
13	23/3/2024 (Sat)	Vectors: Basic Vector Algebra 向量：基礎向量代數
14	6/4/2024 (Sat)	Vectors: Inner Product and Cross Product 向量：內積及向量積
15	13/4/2024 (Sat)	Complex Numbers 複數

16	20/4/2024 (Sat)	Revision / Mock Assessment 複習／模擬評核
17	27/4/2024 (Sat)	Assessment 評核
-	4/5/2024 (Sat)	Make-up Session (if any) 後補課節 (如有)