

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

Dual Program 2025

中學／大學雙修課程 2025

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	Lectures: 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 will be arranged)

課堂練習／作業／期終評估（不安排後補評估）

Attendance and Certificate Requirements 出席率與證書之要求

To receive a certificate, students must adhere to the following requirements:

要獲得證書，學生必須遵守以下要求：

- **Attendance:** Students are required to attend **at least 80%** of classes (including tutorials). No absences will be excused for any reason.

出席率：學生必須出席至少 **80%** 的課堂（包括導修課）。無論原因如何，缺席課堂均不予以豁免。

- **Certificate:** Upon completion of the course, students who achieve a grade of **C or above** and fulfil the attendance requirement will be awarded a certificate.

證書：完成課程後，成績達到 **C 級或以上**，且符合出席率要求的學生將獲頒證書。

Remarks 備註

- 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。

- 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	29/11/2025 (Sat)	Functions, Inverse Functions and Composite Functions 函數、反函數及複合函數
2	6/12/2025 (Sat)	Trigonometric Functions 三角函數
3	13/12/2025 (Sat)	Exponential and Logarithmic Functions 指數函數及對數函數
/	20/12/25 (Sat)	No Class
/	27/12/25 (Sat)	No Class
Tutorial	3/1/2026 (Sat)	Online Tutorial 網上導修課 (2:00 – 4:00 pm)
4	10/1/2026 (Sat)	Limits and Derivatives 極限和導數
5	17/1/2026 (Sat)	Differentiation Rules 微分法則
6	24/1/2026 (Sat)	Differentiation of Trigonometric Functions 三角函數求導
7	31/1/2026 (Sat)	Differentiation of Exponential and Logarithmic Functions 指數函數及對數函數求導
8	7/2/2026 (Sat)	Applications of Differentiation 微分之應用
9	14/2/2026 (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
/	21/2/2026 (Sat)	No Class [5th day of Chinese New Year]
Tutorial	28/2/2026 (Sat)	Online Tutorial 網上導修課 (2:00 – 4:00 pm)
10	7/3/2026 (Sat)	Definite Integration: Fundamental Theorems of Calculus 定積分：微積分基本定理
11	14/3/2026 (Sat)	Applications of Definite Integration 定積分之應用
12	21/3/2026 (Sat)	Applications of Definite Integration (Cont'd) 定積分之應用 (續)
13	28/3/2026 (Sat)	Vectors: Basic Vector Algebra 向量：基礎向量代數

/	4/4/2026 (Sat)	<i>No Class (Public Holiday)</i>
14	11/4/2026 (Sat)	Vectors: Inner Product and Cross Product 向量：內積及向量積
15	18/4/2026 (Sat)	Complex Numbers 複數
16	25/4/2026 (Sat)	Revision / Mock Assessment 複習／模擬評核
17	2/5/2026 (Sat)	Assessment 評核
-	9/5/2026 (Sat)	Make-up Session (if any) 後補課節 (如有)