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	Level 1 (Mathematics) Class A 階段一（數學）Class A
Course Instructors 課程導師	Dr CHENG Kam Hang, Henry 鄭錦恒博士 Mr CHENG Wing Cheong Tommy 鄭永昌先生
Medium of Instruction 教學語言	English 英語授課 and/or Cantonese with lecture notes in English 廣東話，輔以英文教材
Time 上課時間	2:00 pm - 5:00 pm
Venue 地點	HKUST Campus 香港科技大學

Course Objectives 課程目標

This is a course designed for students who would like to explore and understand the fundamental concepts and techniques of calculus. The course will start with an introduction to the important concepts of limits and continuity, then proceed to a concise treatment on the techniques and applications of differentiation and integration, and finally lead to the understanding of the relationship between differential and integral calculus.

本課程特為有志探究及了解微積分基礎概念的學生而設。課程將先介紹極限與連續性之概念，繼而精簡扼要地討論微分與積分的技巧及其應用，從而引導學生了解微分和積分之間的關聯。

Pre-requisite 修讀條件[#]

Knowledge on HKDSE Math 具備香港中學文憑考試之數學知識

[#] *Students who have not obtained Grade B or above in DP Pre-stage (Mathematics) before will be invited to sit for a screening test 沒有於雙修課程預備階段(數學)取得 B 級或以上成績的同學將被安排參加甄別試*

Assessment 評核方式

Classwork / Homework / Mid-term Test / Final Assessment (No make-up assessment is arranged)

課堂表現／功課／中期測試／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

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. The medium of instruction adopted for this course will depend on the enrolment each year.

   課程最終採取的教學語言將依據每年報讀學生情況而定。

3. Outstanding students will be promoted to DP Level 2.

   表現優異的同學可晉升雙修課程階段二。

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香港科技大學資優教育發展中心

DP Level 1 (Mathematics) — Course Schedule
雙修課程 階段一 （數學）— 課程時間表

Session 節次	Date 日期	Topic 課題	
1	29/11/2025 (Sat)	Functions 函數	
2	6/12/2025 (Sat)		
3	13/12/2025 (Sat)	Limits, Continuous functions 極限、連續函數	
/	20/12/25 (Sat)	No Class	
/	27/12/25 (Sat)	No Class	
/	3/1/2026 (Sat)	No class (Study Break)	
4	10/1/2026 (Sat)	Limits, Continuous functions 極限、連續函數	
5	17/1/2026 (Sat)	Introduction to Differentiation 微分引論	
6	24/1/2026 (Sat)	Rules of Differentiation 微分法則	
7	31/1/2026 (Sat)		
8	7/2/2026 (Sat)	Mean Value Theorem 中值定理	
9	14/2/2026 (Sat)	Rates of change, Linear approximation 變率、線性逼近	
/	21/2/2026 (Sat)	No Class (5th day of Chinese New Year)	
10	28/2/2026 (Sat)	**Mid-term Assessment** 中期評估	Maxima and minima, Optimization 最大與最小值、優化問題
11	7/3/2026 (Sat)	Graph sketching 函數繪圖	
12	14/3/2026 (Sat)	Antiderivatives 逆導數	
13	21/3/2026 (Sat)	Introduction to Integration 積分引論	
14	28/3/2026 (Sat)	Fundamental Theorem of Calculus 微積分基本定理	
/	4/4/2026 (Sat)	No Class (Public Holiday)	
15	11/4/2026 (Sat)	Fundamental Theorem of Calculus 微積分基本定理	
16	18/4/2026 (Sat)	Areas and Volumes, Physical Applications of Integration 面積與體積、積分的物理應用	
17	25/4/2026 (Sat)		
18	2/5/2026 (Sat)	**Assessment** 評核	

-	9/5/2026 (Sat)	Make-up Session (if any) 後補課節 (如有)