Secondary Schools - The Hong Kong University of Science and Technology (HKUST)
Dual Program 2022
Level 1 (Mathematics)

中學／大學雙修課程 2022
階段一（數學）

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

Course Instructor 課程導師

Dr CHENG Kam Hang, Henry (Department of Mathematics) 鄭錦恒博士（數學系）

Mr CHENG Wing Cheong Tommy (Department of Mathematics) 鄭永昌先生（數學系）

Medium of Instruction 教學語言

Cantonese / English *, with lecture notes in English

廣東話／英語授課 *，並輔以英文教材

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）

* 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。

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Remarks 備註

1. In view of the development of COVID-19, Pre-stage Level and Level 1 of Dual Program will adopt online teaching and learning mode.
   由於新冠肺炎疫情持續，雙修課程預備階段及階段一的課堂將採用網上教學模式。

2. Outstanding students will be promoted to DP Level 2. This schedule is tentative and subject to change if necessary.
   表現優異的同學可晉升雙修課程階段二。課程時間表為暫定，會應需要而變。

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	Time 時間	Topic 課題
1	19/11/2022 (Sat)	2:00 – 5:00 pm	Functions 函數
2	26/11/2022 (Sat)		Functions 函數
3	3/12/2022 (Sat)		Limits and Continuity 極限和連續性
4	10/12/2022 (Sat)		Limits and Continuity 極限和連續性
5	17/12/2022 (Sat)		Introduction to Differentiation 微分引論
6	7/1/2023 (Sat)		Differentiation Techniques 微分技巧
7	28/1/2023 (Sat)		Differentiation Techniques 微分技巧
8	4/2/2023 (Sat)		Applications of Differentiation 微分之應用
9	11/2/2023 (Sat)		Applications of Differentiation 微分之應用
10	18/2/2023 (Sat)		Mid-term Assessment & Applications of Differentiation (Cont'd) 中期評估 及 微分之應用（續）
11	25/2/2023 (Sat)		Applications of Differentiation (Cont'd) 微分之應用（續）
12	4/3/2023 (Sat)		Antiderivatives 反導數
13	11/3/2023 (Sat)		Introduction to Definite Integrals 定積分引論
14	18/3/2023 (Sat)		Fundamental Theorem of Calculus 微積分基本定理
15	25/3/2023 (Sat)		Fundamental Theorem of Calculus 微積分基本定理
16	1/4/2023 (Sat)		Applications of Integration 積分之應用
17	15/4/2023 (Sat)		Applications of Integration 積分之應用
18	22/4/2023 (Sat)		**Assessment 評核**
	29/4/2023 (Sat)	To be confirmed 待定	Make-up Session (if any) 後補課節（如有）