

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 (Mathematics) 預備階段 (數學)
Course Instructors 課程導師	Dr. MAK Hugo Wai Leung 麥偉樑博士 Dr. CHU Kwun Lun Alan 朱冠麟博士 Mr. KONG Hoi Sang 江海生先生
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

It is designed for students who would like to explore and understand the fundamental ideas and concepts of Mathematics, appreciate the beauty of Mathematics, and present mathematical ideas in a more logical manner. The course contents include Numbers, Polynomials, Techniques of Algebra, Functions and their Geometric representations, Sequences and Series. The course is also structured as a bridging course of the Dual Program (DP) Level 1 (Math) course.

本課程旨在讓學生探究和了解基礎數學概念、欣賞數學之美、以及利用更有邏輯的方式表達數學理念。課程內容包括數字、多項式、代數的技巧、函數及其幾何表示方式、數列及級數。本課程同時是為有志繼續修讀雙修課程階段一（數學）課程的同學而設計。

Pre-requisite 修讀條件[#]

Students at S1 - S3 with some knowledge of elementary Algebra

掌握部份代數知識的中一至中三學生

All applicants will be invited to sit for a screening test scheduled in the morning of 7 October 2023 (Saturday).

所有申請者將被安排參加甄別試。甄別試將在 2023 年 10 月 7 日 (星期六) 早上進行。

Assessment 評核方式

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

家課／中期測試／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. 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 1.
表現優異的同學可晉升雙修課程階段一。

DP Pre-stage Level (Mathematics) — Course Schedule

雙修課程 預備階段 (數學) — 課程時間表

Session 節次	Date 日期	Topic 課題
1	25/11/2023 (Sat)	Basic Algebra (including Numbers, Division Algorithm, Proof by Contradiction and Mathematical Induction) 基本代數 (包括數字、除法算法、反證法及數學歸納法)
2	2/12/2023 (Sat)	
3	9/12/2023 (Sat)	
4	6/1/2023 (Sat)	
n/a	13/1/2024 (Sat)	In-class Tutorial 導修課
5	20/1/2024 (Sat)	Polynomials, Binomial Theorem and Partial Fractions 多項式、二項式定理及部分分式
6	27/1/2024 (Sat)	
7	3/2/2024 (Sat)	
8	17/2/2024 (Sat)	Mid-Term Test 中期測試
9	2/3/2024 (Sat)	Functions and its Geometric Representations Coordinate Geometry 函數及其幾何表示方式 坐標幾何
10	9/3/2024 (Sat)	
11	16/3/2024 (Sat)	
n/a	23/3/2024 (Sat)	In-class Tutorial 導修課
12	6/4/2024 (Sat)	Trigonometric Formulae (Including Compound Angle Formula and Half Angle Formula) 三角學的公式 (包括複角公式及半角公式)
13	13/4/2024 (Sat)	
14	20/4/2024 (Sat)	Sequences and Series 數列及級數
15	27/4/2024 (Sat)	
16	4/5/2024 (Sat)	Final Assessment 期終評估
-	11/5/2023 (Sat)	Make-up Session (if any) 後補課節 (如有)