



MATHS IGNITION – NUMBER THEORY

(MATS1113)

Introduction

Maths Ignition is an introductory programme. It is designed as a series of courses of different topics and is developed as a bridging programme to the 'IMO Training' programme.

Maths Ignition – Number Theory is the third course of the series. It aims to broaden students' knowledge in number theory on the basis of junior secondary mathematics curriculum through exploration and investigation approach. Students who have completed 2 out of 5 courses in Math Ignition series might be considered for direct admission to the "Introduction to Olympiad Mathematics 2020 (Phase I)" (MATS1151), an intermediate-level programme offered in Spring 2020 by IMO Hong Kong Committee.

This programme is co-organized with International Mathematical Olympiad Hong Kong Committee (IMOHKC)

Programme Type / Level

Introductory Course in Mathematical Olympiad ([Token-required](#))

Instructor(s)

Dr Law Ka Ho

Pre-requisites

Students should have the basic knowledge in

1. Prime factorisation of positive integers
2. Basic properties of and tests for the divisibility of integers

Target Participants



- S1 – S3 HKAGE student members
- Class size: 30
- All applicants **MUST** attend the **Aptitude Test** on **10 Aug 2019** except for those who have attended the Aptitude Test held on 18 May 2019, 11 Feb 2019 or 17 Nov 2018.

Remarks: Due to the limited seats in computer rooms, students who have taken the Aptitude Test on 18 May 2019 would not be allowed to take the test on 10 Aug 2019. Their results on 18 May 2019 will be used for this programme.

- * Not for students who have enrolled in**
- 1. CGMO Training (Phase I) MATS1121 or**
 - 2. Introduction to Olympiad Mathematics (Phase I) MATS1151 or**
 - 3. Any phase of International Mathematics Olympiad (IMO) Training before**

Medium of Instruction



Cantonese with English handouts

Certificate



E-Certificate will be awarded to participants who have:

- ❖ Attended **at least 3 sessions AND**
- ❖ Satisfactory performance in the end-of-course test

Intended Learning Outcomes



- Upon completion of the programme, participants should be able to:
1. Broaden their mathematical knowledge in the topic of number theory on the basis of junior secondary mathematics curriculum;
 2. Strengthen their problem solving and higher-order thinking skills;
 3. Learn more about the scope of International Mathematical Olympiad Training.

Aptitude Test



Students who wish to apply for this programme must take a general aptitude test on **10 Aug 2019 (1:30 p.m. – 3:30 p.m. or 4:00 p.m. – 6:00 p.m.)**.

This general aptitude test consists of 100 multiple choice questions which covers a wide range of topics in mathematics. The purpose of the test is to figure out the applicant's knowledge in different fields of mathematics in order to choose the most suitable students for different programmes. Neither under-qualified nor over-qualified students will be admitted.

The next aptitude test is scheduled on **23 Nov 2019**. The result of an aptitude test will be valid for 1 year. If a student takes the test more than once, the latest result will prevail. The following table lists the programmes for which the results of this general aptitude test will apply:

Programme Date	Code	Programme Name	Aptitude test valid			
			17 Nov 2018	11 Feb 2019	18 May 2019	10 Aug 2019
Sep 2019	MATS1113	Maths Ignition – Number Theory	√	√	√	√
Nov 2019	MATS1114	Maths Ignition - Algebra	√	√	√	√
Nov 2019	MATS2940	Introduction to Financial Mathematics	√	√	√	√
Feb 2020	MATS1115	Maths Ignition - Coordinate Geometry		√	√	√
Mar 2020	MATS1121	CGMO Training 2020 (Phase I)			√	√
Mar 2020	MATS1151	Introduction to Olympiad Mathematics 2020 (Phase I)			√	√
Jul 2020	MATS1111	Maths Ignition – Combinatorics				√
Aug 2020	MATS1112	Maths Ignition - Geometry				√
Aug 2020	MATS2330	Trigonometry				√

Remarks:

- All aptitude tests will only be arranged on the designated dates. No make-up test will be arranged.**
- No Calculator is allowed.**
- Please bring along with your Identification Card e.g. HKID, student ID.**
- Please arrive at the venue 15 minutes prior to the Aptitude Test begins.**

If students who have selected to join the aptitude test are absent without any reasons and prior notification provided, it will result in a lower priority in joining the aptitude test next time when they apply.

Application
Deadline

5 Aug 2019 12:00 n.n.

Application Result
Release Date

16 Aug 2019

If student members withdraw from the programme after the Application Deadline, the token will be deducted.

Schedule



Session	Date	Time	Venue (HKAGE)
Aptitude Test	10 Aug 2019	1:30 p.m. – 3:30 p.m. or 4:00 p.m. – 6:00 p.m.	Computer Room, 1/F, Hong Kong Productivity Council
1	7 Sep	2:00 p.m. – 5:00 p.m.	Room 403
2	21 Sep		Room G01
3	28 Sep		Room 105
4[Cancelled]	5-Oct		Room 303
Make-up lesson	26 Oct	2:00 p.m. – 5:00 p.m.	Room 303

Hong Kong Productivity Council: 78 Tat Chee Avenue, Kowloon, Hong Kong
([MAP](#))

Sample Examples for the Programme

1. What is the sum of all factors of 899899?
2. Find all positive integers x and y such that $xy = 4x + 7y$.

Enquiries



For enquiries, please contact us at 3940 0101 after language selection, press "1".

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