



S3IM0005C

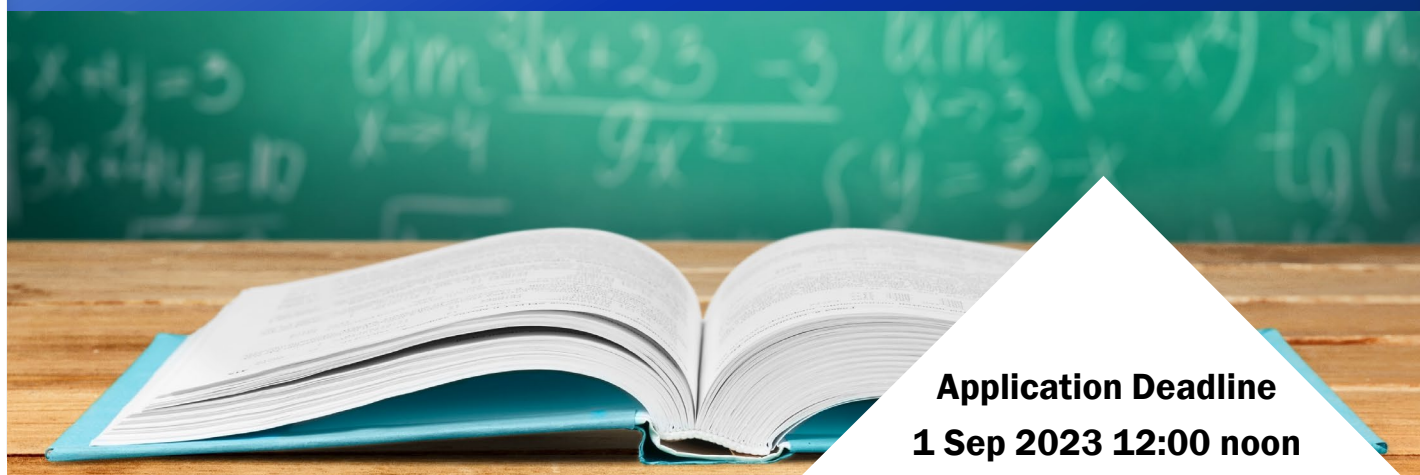
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Advanced Course in  
Mathematical Olympiad

# International Mathematical Olympiad Training 2023-24 (Phase II) Level 2

Dr Ching Tak Wing and other trainers

English version only 只供英文版



**Application Deadline**  
**1 Sep 2023 12:00 noon**

**Result Release**  
**8 Sep 2023**

## **Intended Learning Outcomes**

Upon completion of the programme, participants should be able to:

1. broaden their mathematical knowledge in a variety of areas on the basis of senior secondary mathematics curriculum;
2. learn more about the scope of International Mathematical Olympiad Training;
3. strengthen their problem solving and higher-order thinking skills.

## ◆ Introduction

- A comprehensive mathematics programme which covers such as Algebra, Number Theory, Geometry and Combinatorics
- Introduce the basic curriculum of the International Mathematical Olympiad competition
- Broaden student's mathematical knowledge, strengthen their problem solving, higher order and logical thinking skills
- Training consists of four phases: Phase I (Jul – Aug), Phase II (Sep – Dec), Phase III (Jan – Mar 2024) and Pre-IMO Intensive training.
- Students with outstanding performance in the programme would be selected to represent Hong Kong in the 65<sup>th</sup> IMO 2024

The International Mathematical Olympiad Training programmes are co-organized with International Mathematical Olympiad Hong Kong Committee (IMOHKC)

## ◆ Target Participants

Non-HKAGE student members who

- were awarded **Honourable Mention or above in IMO Preliminary Selection Contest – Hong Kong**

HKAGE student members who

- were awarded **Honourable Mention or above in IMO Preliminary Selection Contest – Hong Kong** **or**
- have participated in **any phase of International Mathematical Olympiad (IMO) training** **or**
- have completed **any Phase of China Girls Mathematics Olympiad (CGMO) training** **or**
- have completed **any Phase of Introduction to Olympiad Mathematics (ITOM) training** with Distinction or **both phases of ITOM** with Merit.

Class size: 30

This programme is the same as E3IM0005C in the school year 2021/22

## ◆ Certificate

E-Certificate will be awarded to participants who have:

- attended **at least 11 sessions**; and
- completed all the assignments with satisfactory performance

## ◆ Medium of Instruction

Cantonese with English Handouts

## ◆ Schedule

Session	Date	Time	Venue
1	16 Sep	2:00 p.m. – 5:00 p.m.	Room 204, HKAGE
2	23 Sep		Room 204, HKAGE
3	7 Oct		Room 204, HKAGE
4	14 Oct		Room 204, HKAGE
5	20 Oct	12:30 p.m. – 5:00 p.m.	Room 105, HKAGE
6	21 Oct	2:00 p.m. – 5:00 p.m.	Room 105, HKAGE
7	28 Oct		Room 204, HKAGE
8	4 Nov		Room 204, HKAGE
9	11 Nov		Room 204, HKAGE
10	18 Nov		Room 204, HKAGE
11	25 Nov		Room 204, HKAGE
12	9 Dec		Room 204, HKAGE
13	16 Dec		Room 204, HKAGE
14	23 Dec		Room 204, HKAGE

Remarks:

1. Students **MUST ATTEND** the test held on **21 Oct & 9 Dec 2023**. No make-up test will be arranged.
2. Students are encouraged to participated in the Iranian Geometry Olympiad held on **20 Oct 2023**.

## ◆ Appendix - IMO-related Programmes (1 Sep 2023 onwards)

- IMO-related programmes is a series of programmes that provide International Mathematical Olympiad (IMO) related training. It aims to equip students with the mathematics knowledge and curriculum of IMO, problem solving skills, and high-order thinking skills progressively.
- The programmes are divided into three levels: Introductory, Intermediate, and Advanced level.
- There are different enrollment methods, e.g. aptitude test. For details, please refer to each programme's poster

### Introductory Level

#### Maths Ignition (MI) Programmes

- For S1-S3 HKAGE student members
- Introductory training in Mathematical Olympiad by topics
- Application for five MI programmes will be open in Apr, Jul & Oct each year
- Enroll through aptitude test

### Introductory to Intermediate Level

#### Introduction to Olympiad Mathematics (ITOM)

- For S1-S6 HKAGE student members
- Two phases of training
- Application will be open in Jan each year
- Enroll through aptitude test; OR
- Students who attained (a) distinction in 2 MI courses; OR (b) merit or above in 3 MI courses; OR (c) completion or above in 4 MI courses could enroll directly

### Introductory to Advanced Level

#### China Girls Mathematics Olympiad (CGMO) Trainings

- For S1-S6 HKAGE female HKAGE student members
- Three phases of training
- Application will be open in Jan each year
- Enroll through aptitude test; OR
- Students who have completed any phase of IMO/CGMO/ITOM Training could enroll directly
- CGMO HK Team members will be selected based on their performance in the trainings

### Advanced Level

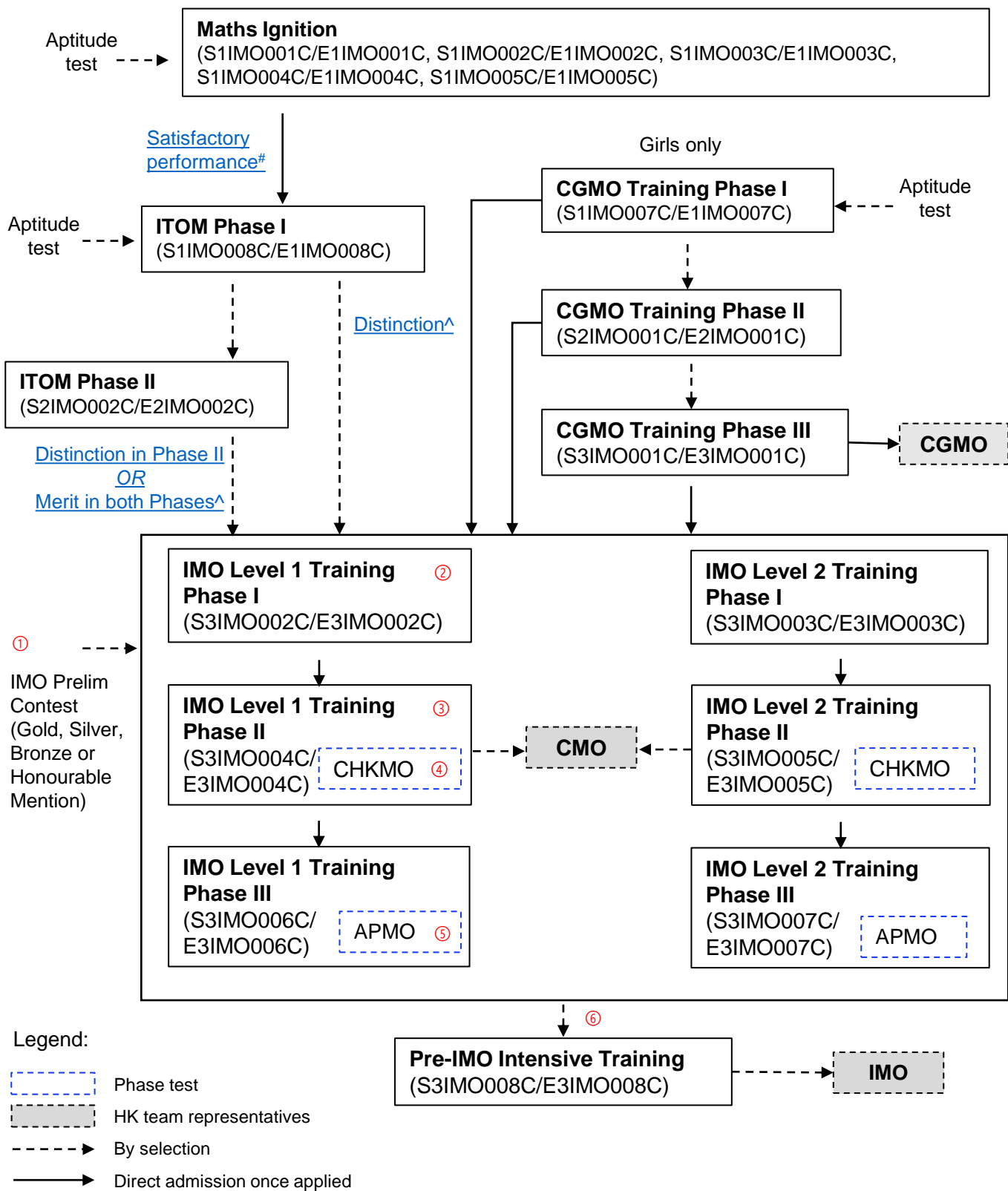
#### International Mathematical Olympiad (IMO) Trainings

- For all awardees of IMO Preliminary Selection Contest - Hong Kong; OR students who got the certificate of distinction in any phase of ITOM training; OR students who got the certificate of merit in both phases of ITOM training; OR students who have participated in any phase of IMO/CGMO training
- Four phases of training
- IMO HK Team members will be selected based on their performance in the tests and trainings

\*For detailed flowchart and timeline, please refer to the next page.

# International Mathematical Olympiad Related Programmes

(English version only 只提供英文版)



IMO2024 HK Team representatives are selected based on their performance in the assessments from ① through ⑥  
 IMO2025 HK Team representatives are selected based on their performance in the assessments from ② through ⑥

## IMPORTANT information for International Mathematical Olympiad (IMO) Training

### IMO Training

#### Eligibility

- IMO Preliminary Selection Contest awardees ① or
- Student members who have completed any phase of the IMO Training or
- Student members who have completed any phase of CGMO Training or
- Student members who have completed any phase of ITOM Training with Distinction
- Student members who have completed both phases of ITOM Training with Merit

Training /Competition	Content	Tentative schedule	Remark
<b>Phase I Training</b>	13 x 3-hr lessons	Jul - Aug	
	Test 1 ② 3 hr, 6 proof problems	Aug	<ul style="list-style-type: none"> <li>▪ Phase test</li> <li>▪ No make-up test</li> </ul>
<b>Phase II Training</b>	17 x 3-hr lessons	Sep - Dec	
	Test 2 ③ 3 hr, 4 proof problems	Oct	<ul style="list-style-type: none"> <li>▪ Phase test</li> <li>▪ No make-up test</li> </ul>
	CHKMO ④ 3 hr, 4 proof problems	Dec	<ul style="list-style-type: none"> <li>▪ Phase test</li> <li>▪ No make-up test</li> </ul>
<b>Phase III Training</b>	8 x 3-hr lessons	Jan - Mar	
	APMO ⑤ 4 hr, 5 proof problems	Mar	<ul style="list-style-type: none"> <li>▪ End-of-phase test</li> <li>▪ No make-up test</li> </ul>
<b>Selection Tests for Pre-IMO Intensive Training</b>	Test 3 ⑥ 2 days x 4.5 hr, 3 proof problems	Apr or May	<ul style="list-style-type: none"> <li>▪ About 20 students to be selected based on previous tests</li> <li>▪ No make-up tests</li> </ul>
<b>Pre-IMO Intensive Training</b>	IMO HK Team (6 students) & Alternate Team (6 students)		<ul style="list-style-type: none"> <li>▪ 12 students to be selected based on previous tests</li> </ul>
<b>IMO</b>	2 days x 4.5 hr, 3 proof problems		<ul style="list-style-type: none"> <li>▪ IMO HK Team</li> </ul>
<b>CMO</b>	2 days x 4.5 hr, 3 proof problems		<ul style="list-style-type: none"> <li>▪ About 6 students to be selected based on previous tests</li> </ul>
<b>CGMO</b>	2 days x 4 hr, 4 proof problems		<ul style="list-style-type: none"> <li>▪ About 8 female students selected via CGMO training</li> </ul>

IMO2024 HK Team representatives are selected based on their performance in the assessments from ① through ⑥  
 IMO2025 HK Team representatives are selected based on their performance in the assessments from ② through ⑥

## Useful websites

IMO official website:	<a href="http://www.imo-official.org/">http://www.imo-official.org/</a>
IMO website:	<a href="http://imo2023.jp/">http://imo2023.jp/</a>
Art of Problem Solving:	<a href="http://www.artofproblemsolving.com/">http://www.artofproblemsolving.com/</a>
Mathematical Excalibur:	<a href="http://www.math.ust.hk/excalibur/">http://www.math.ust.hk/excalibur/</a>

## #Entering ITOM with Satisfactory Performance in Maths Ignition (MI) Programmes

Starting from 1 September 2023 onwards, students who fulfilled one of the criteria below are eligible to enter ITOM - "Introduction to Olympiad Mathematics (Phase I)" (S1IMO008C):

- good results in aptitude test; **OR**
- distinction in at least 2 different MI courses; **OR**
- merit/distinction in at least 3 different MI courses; **OR**
- pass/merit/distinction in at least 4 different MI courses

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## ^Entering IMO Training with Satisfactory Performance in ITOM or CGMO

Starting from 1 September 2023 onwards, students who fulfilled one of the criteria below are eligible to enter IMO training Phase I Level I (S3IMO002C):

- Non-HKAGE student members / HKAGE student members who were awarded Honourable Mention or above in IMO Preliminary Selection Contest – Hong Kong; **OR**
- HKAGE student members who have completed any phase International Mathematical Olympiad (IMO) Training; **OR**
- HKAGE student members who have completed any phase of CGMO; **OR**
- HKAGE student members who have attained distinction in any phase of ITOM; **OR**
- HKAGE student members who have attained merit in both phases of ITOM

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