



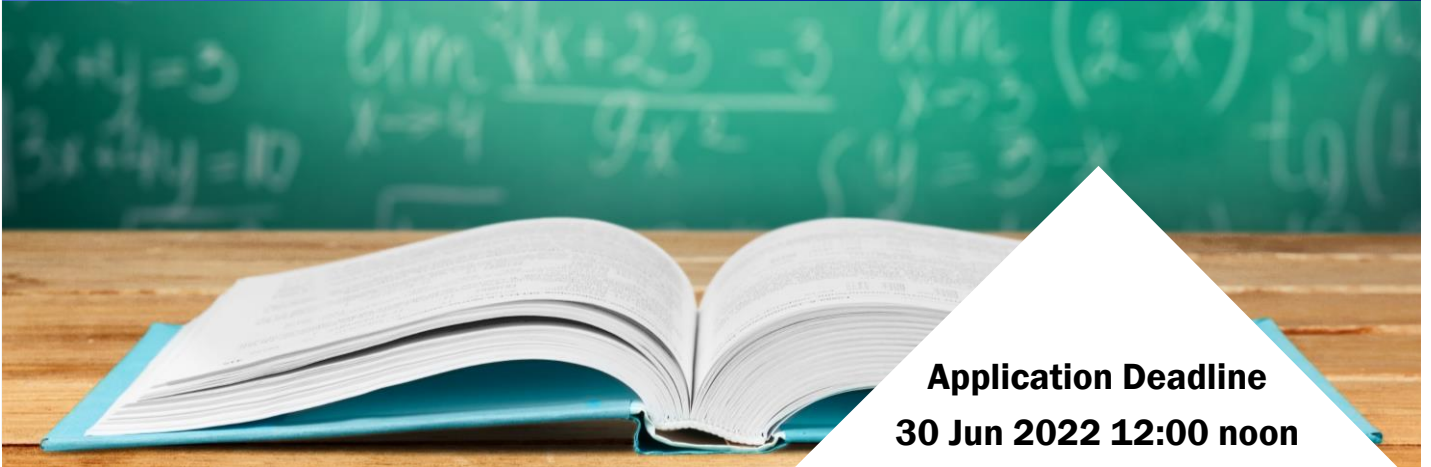
S3IM0003C

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Advanced Course in
Mathematical Olympiad

International Mathematics Olympiad Training 2022-23 (Phase I) Level 2

Dr Leung Tat Wing and other trainers



Result Release
06 Jul 2022

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 Mathematics Olympiad competition
- Broaden student's mathematical knowledge, strengthen their problem solving, higher order and logical thinking skills
- Training consists of 3 Phases: Phase I (Jul – Sep), Phase II (Sep – Dec) and Phase III (Jan – Mar 2023)
- Students with outstanding performance in the programme would be selected as the representatives of Hong Kong in the 64th IMO 2023

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 been a **trainee in any phase of International Mathematics Olympiad (IMO) Training** **or**
- have completed **any Phase of CGMO** **or**
- have completed **any Phase of ITOM training with Distinction**

Class size: 30

This programme is the same as E3IM0003C in the school year 2021/22

◆ Certificate

E-Certificate will be awarded to participants who have:

- attended **at least 10 sessions**; and
- completed all the assignments with satisfactory performance

◆ Medium of Instruction

Cantonese with English Handouts



◆ Schedule

| Session | Date | Time | Venue |
|---------|--------|-----------------------|--|
| 1 | 16 Jul | 2:00 p.m. – 5:00 p.m. | Room 203, HKAGE |
| 2 | 23 Jul | | Room 203, HKAGE |
| 3 | 30 Jul | | Room 204, HKAGE |
| 4 | 06 Aug | | Room 204, HKAGE |
| 5 | 13 Aug | | Room 204, HKAGE |
| 6 | 15 Aug | | Room 204, HKAGE |
| 7 | 17 Aug | | Room 204, HKAGE |
| 8 | 20 Aug | | Room 204, HKAGE |
| 9 | 22 Aug | | Room G04, HKAGE Room G03, HKAGE |
| 10 | 24 Aug | | Room G04, HKAGE Room G03, HKAGE |
| 11 | 27 Aug | | Room 204, HKAGE |
| 12 | 29 Aug | | Room 204, HKAGE |
| 13 | 03 Sep | | Room 105, HKAGE |

Remarks:

- Students **MUST ATTEND** the test held on **03 Sep 2022**. No make-up test will be arranged.





◆ Appendix - IMO-related Programmes

- IMO-related programmes is a series of programmes that provide International Mathematics 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
- Students who have completed at least 2 MI programmes 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
- CGMO HK Team members will be selected based on their performance in the trainings

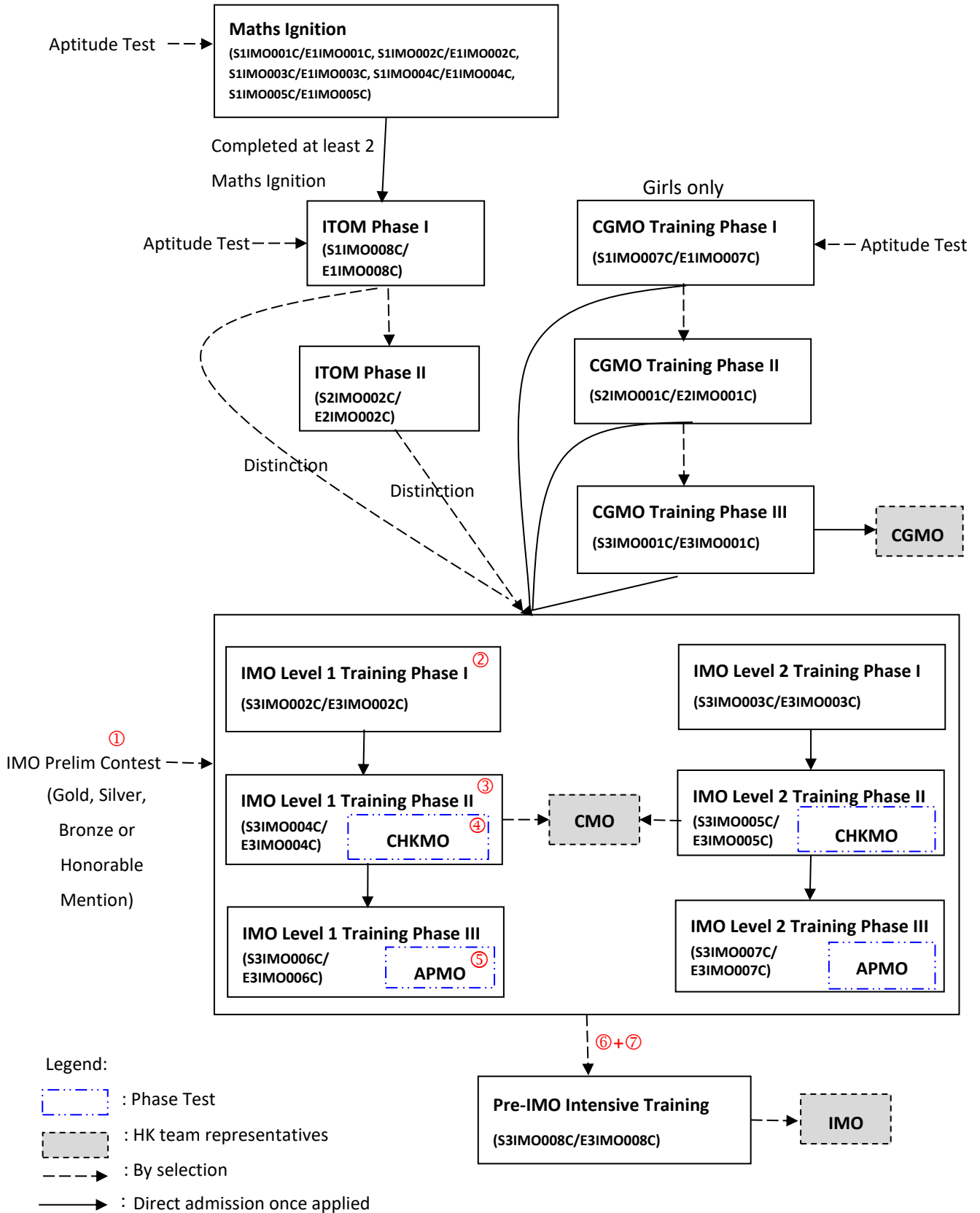
Advanced Level

International Mathematics Olympiad (IMO) Trainings

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

*Detail flowchart and timeline, please refer to next page.

International Mathematical Olympiad Related Programmes



Remarks:

ITOM – Introduction to Olympiad Mathematics
 CGMO – China Girl’s Mathematical Olympiad
 IMO – International Mathematical Olympiad

CHKMO – Hong Kong (China) Mathematical Olympiad
 CMO – Chinese Mathematical Olympiad
 APMO – Asian Pacific Mathematics Olympiad

IMO HK Team representatives are selected based on their performance in the assessments from ① through ⑦

IMPORTANT information for International Mathematical Olympiad (IMO) Training

| Phase Trainings | | | |
|--|--|-------------------|---|
| Eligibility | | | |
| <ul style="list-style-type: none"> ● IMO Preliminary Selection Contest awardees ① or ● Student members who have been a trainee in 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 | | | |
| Training /Competition | Content | Excepted Schedule | Remark |
| Phase I Training | 13 x 3-hr lessons | Jul - Aug | |
| | Test 1 ② 3 hr, 6 proof problems | Aug | ✧ Phase test ✧ No make-up test |
| Phase II Training | 17 x 3-hr lessons | Sep - Dec | |
| | Test 2 ③ 3 hr, 4 proof problems | Oct | ✧ Phase test ✧ No make-up test |
| | CHKMO ④ 3 hr, 4 proof problems | Dec | ✧ Phase test ✧ No make-up tests |
| CMO | 2 days x 4.5 hr, 3 proof problems | Dec or Jan | 6# students selected based on Prelim ①, Test 1 ②, and Test 2 ③ |
| Phase III Training | 8 x 3-hr lessons | Jan - Mar | |
| | APMO ⑤ 4 hr, 5 proof problems | Mar | ✧ End-of-phase test ✧ No make-up test |
| Selection Tests for Pre-IMO Intensive Training | Test 3 ⑥ 4.5 hr, 3 proof problems Test 4 ⑦ 4.5 hr, 3 proof problems | Apr or May | 18 students selected based on Prelim ①, Test 1 ②, Test 2 ③, CHKMO ④ and APMO ⑤ ✧ No make-up tests |
| Pre-IMO Intensive Training | IMO HK Team (6 students) & Alternate Team (6 students), | | 12 students selected based on Prelim ①, Test 1 ②, Test 2 ③, CHKMO ④, APMO ⑤, Test 3 ⑥ and Test 4 ⑦ |
| IMO | 2 days x 4.5 hr, 3 proof problems @ | | IMO HK Team |
| CGMO | 2 days x 4 hr, 4 proof problems @ | | 8# female students selected via CGMO Training (NOT IMO Training) |

Subject to change. May vary from year to year.

IMO HK Team representatives are selected based on their performance in the assessments from ① through ⑦

Useful websites

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|--------------------------------------|---|
| IMO official website: | www.imo-official.org |
| IMO 2017 website: | http://www.imo2017.org.br/ |
| Art of Problem Solving: | www.artofproblemsolving.com |
| Mathematical Database: | www.mathdb.org |
| IMO 2016 Facebook page: | www.facebook.com/imo2016 |
| IMO 2016 newsletter IMOment: | www.edb.gov.hk/tc/curriculum-development/kla/ma/IMO/IMOment.html |
| Mathematical Excalibur: | www.math.ust.hk/excalibur/ |
| reference list recommended by IMOHKC | https://docs.google.com/spreadsheets/d/1I4GNYbY2eDPPKCnD4lpnYuqNenJV0-3NgKUMDh6m5ow/edit?usp=sharing |