

Education Bureau Circular Memorandum No. 241/2024

To : Heads of all secondary schools

Date : 4 November 2024

**The 1st “Hong Kong-Shanghai Mathematical Modelling Competition for Secondary Students”,
“Mathematical Modelling Competition for Secondary Students 2024/25” and
The 11th “International Mathematical Modelling Challenge (Greater China)”**

Summary

The purpose of this circular memorandum is to invite secondary schools (including international schools) to nominate students to participate in the captioned competitions, and nominate teachers and students to participate in relevant training programmes.

Background

2. The Education Bureau (EDB) has been stepping up the promotion of STEAM education in schools, launching various curriculum support measures to strengthen students' abilities in integration and application of what they have learnt in Mathematics, Science, and Innovation and Technology. These measures include organising mathematical modelling workshops for teachers and students to strengthen students' ability in the application of Mathematics, and enhance their interest and motivation in learning Mathematics. In order to further enrich students' understanding of mathematical modelling, and promote interflow in mathematical modelling education between Hong Kong's school sector and their Mainland and international counterparts, EDB will organise more large-scale cross-regional student competitions in mathematical modelling starting from the 2024/25 school year, and provide relevant training programmes which are open to all secondary schools in Hong Kong (including international schools).

Details

The 1st Hong Kong-Shanghai Mathematical Modelling Competition for Secondary Students

3. The “Hong Kong-Shanghai Mathematical Modelling Competition for Secondary Schools” (HSMMC), jointly organised by EDB and local universities, aims to provide senior secondary students with the opportunity to solve complex real-life problems using mathematical modelling in

teams. Through exchange with students from Shanghai, the competition seeks to strengthen students' abilities in the application of Mathematics and broaden the horizons of students from both cities, while also raising the school sector's awareness of mathematical modelling education.

4. The inaugural HSMMC is tentatively scheduled to take place in Hong Kong during the summer vacation of 2025. Five teams of 4 – 6 senior secondary students from each city will be selected to participate in the competition. The competition will require teams to develop a mathematical modelling report within a specified time frame, followed by an oral defense. Representatives from Hong Kong will be selected through the senior secondary division of the “Mathematical Modelling Competition for Secondary Students 2024/25” organised by EDB.

5. EDB will organise a series of advanced mathematical modelling workshops for the five selected student teams and their teacher supervisors. These workshops, scheduled to run from April to July 2025, aim to further develop students' advanced mathematical modelling skills and strategies.

Mathematical Modelling Competition for Secondary Students 2024/25

6. The “Mathematical Modelling Competition for Secondary Students” (MMCSS) has been organised annually by EDB since the 2022/23 school year. The competition in this school year will be held between February and March 2025, featuring two categories, namely the junior secondary division and the senior secondary division. Winning teams in both divisions will receive certificates and prizes. In addition, the five top-performing teams from the senior secondary division will represent Hong Kong to participate in the inaugural HSMMC scheduled for summer 2025. All secondary schools in Hong Kong are invited to nominate teams to participate in the MMCSS 2024/25 for the opportunity to represent Hong Kong in the 1st HSMMC.

7. To further enhance teachers' and students' understanding of mathematical modelling and the arrangements for the MMCSS 2024/25, EDB will continue to organise relevant teacher workshops and student workshops this school year. The details are as follows:

- (a) **Teacher Workshops (6 hours):** These workshops aim to facilitate teachers in developing effective learning and teaching strategies for mathematical modelling through professional training and hands-on design of relevant learning and teaching activities, thereby enhancing their professional capabilities in promoting STEAM education through Mathematics, and providing them with opportunities to share their teaching experiences in promoting mathematical modelling. The teacher workshops

will also cover learning and teaching strategies for preparing students for the MMCSS 2024/25.

The teacher workshops will be held from November to December 2024. Enrollment is now open on EDB's Training Calendar System. The course ID is CSD020250166. Please refer to the Training Calendar System for relevant information.

- (b) Student Workshops (6 hours): These workshops aim to enhance students' ability to apply mathematical modelling in solving real-life and STEAM-related problems and use appropriate information technology tools to solve problems, and develop their knowledge and skills in writing mathematical modelling reports.

The student workshops will be held from January to February 2025 and are open to nominations from all secondary schools in Hong Kong. Schools which also register for the MMCSS 2024/25 will be given priority. EDB will allocate workshop places to each school based on the number of participating schools in the MMCSS 2024/25.

8. EDB will hold a **briefing session on the HSMMC and MMCSS 2024/25** in January 2025 to familiarise teachers and students with the arrangements and rules of both competitions. For details of the briefing session and registration, please visit EDB's Training Calendar System. The course ID is CSD020240672.

9. All secondary schools in Hong Kong are invited to nominate students to participate in the **MMCSS 2024/25** and related student workshops. Interested schools are requested to complete the application form (**Annex 1**), and return it to the Mathematics Education Section of the Curriculum Support Division, EDB by mail or fax **on or before 6 December 2024 (Friday)**.

The 11th International Mathematical Modelling Challenge (Greater China)

10. The "International Mathematical Modelling Challenge" (IMMC), established in Boston, USA in 2014, is a new kind of international mathematical modelling competition for secondary school students around the world. It aims to encourage participants to apply mathematical modelling to explore and solve major problems in the real world, popularise mathematical modelling education, and enhance secondary school students' core mathematical literacy and technological innovation capabilities. IMMC serves as both a stage for secondary school students to practise and experience mathematical modelling and a platform for participating secondary schools to showcase and exchange their achievements in Mathematics and STEAM education. This school year, EDB will co-organise the IMMC (Greater China) with NeoUnion ESC Organisation.

11. The IMMC (Greater China) for the 2024/25 school year features both junior secondary and senior secondary divisions. The autumn competition will be held from 21 to 25 November 2024 and the winter competition from 22 to 26 January 2025. Participating teams from Hong Kong can choose to participate in either or both seasonal competitions. Teams that perform well in the IMMC (Greater China) will have the opportunity to advance to the IMMC international competition. The international competition will be held from 6 to 11 March 2025, with the final oral defense taking place in Hong Kong in April 2025.

12. EDB will also co-organise the **“International Mathematical Modelling Challenge International Summit and Award Ceremony”** (Summit) with relevant organisations and local universities. The Summit is tentatively scheduled to be held in Hong Kong in July 2025. Winning teams from various countries and regions in both the IMMC (Greater China) and the IMMC international competition will attend the Summit in Hong Kong and receive their awards. EDB will issue separate invitations to Hong Kong teachers to attend the Summit at that time to foster professional exchange in Mathematics education between Hong Kong and global educators.

13. Registration is now open for the autumn competition of the IMMC (Greater China). All secondary schools in Hong Kong are invited to nominate students for participation. Schools can refer to the official website of the IMMC (Greater China) (<https://istem.info/?lang=hk>) and click on the “Activities” column to register students for the competition. Details about the IMMC (Greater China) are also available on the above website.

Enquiries

14. For details about the MMCSS 2024/25 and the 1st HSMCMC, please visit the relevant webpage of the Mathematics Education Section of the Education Bureau (<https://www.edb.gov.hk/en/curriculum-development/kla/ma/res/mmcss.html>). For details of the IMMC (Greater China), please visit the official website of the IMMC (Greater China) (<https://istem.info/?lang=hk>). For further enquiries, please contact Ms Yeung Wai-ling of the Mathematics Education Section of the Education Bureau at 2153 7469.

LEE Chun-yue

for Secretary of Education

c.c. : Heads of Sections – for information

Mathematics Education Section
Curriculum Support Division, Education Bureau
Room 403, 4/F, Kowloon Government Offices
405 Nathan Road, Kowloon
Attn: Ms YEUNG Wai-ling
(Fax No.: 3426 9265)

**Mathematical Modelling Competition for Secondary Students 2024/25
Application Form (Application Deadline: 6 December 2024 (Friday))**

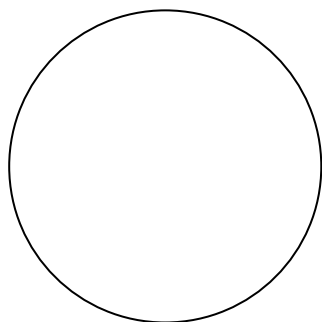
I nominate _____^(†) team(s)^(#) to participate in the Mathematical Modelling Competition for Secondary Students 2024/25, in which _____^(†) team(s) ^(#) will participate in the junior secondary division and _____^(†) team(s) ^(#) will participate in the senior secondary division. I also nominate _____^(†) student(s) to participate in the junior secondary student workshop and _____^(†) student(s) to participate in the senior secondary student workshop [◇]. The teacher-in-charge is:

Name of Teacher: (中文) _____ 先生/女士*

(English) Mr /Ms* _____

Contact no.: _____ Email: _____

Our school authorises the Mathematics Education Section, Curriculum Support Division, EDB to announce the related information of the team(s) or student(s) (restricted to the name of the student(s), the class level(s) and the name of the school) for the results of the captioned competition.



School Chop

Signature of Principal: _____

Name of Principal: _____

Name of School: _____

Tel. No.: _____

Fax No.: _____

Date: _____

[†] Please enter a number.

[#] In the junior secondary and senior secondary divisions, each team comprises **four to six students from Secondary 1 to 3 and Secondary 4 to 6 respectively**. Each school can only register a maximum of 2 teams in each division.

* Please delete whichever is inappropriate.

[◇] The Education Bureau will allocate student workshop places to each school based on the number of participating schools.