

**Regulations
for the 8th International Team
Mathematical Modeling Tournament for high-school students
(MMT-2025)**

1. General Provisions

1.1. The International Team Mathematical Modeling Tournament (hereinafter, the Tournament) is an intellectual competition for high-school students interested in mathematics and its applications.

1.2. The main goal of the Tournament is to develop students' skills in mathematical modeling of objects, phenomena, and situations of the surrounding reality and to get acquainted with problems of applied mathematics and mathematical problems that arise outside of mathematics *per se*.

1.3. Collateral goals of the Tournament:

- to instill a sustained interest in mathematics and scientific research in students;
- to encourage the teaching of mathematical modeling at all levels of education and for all students;
- to establish and strengthen ties between science, math, informatics, engineering schools or classes in Russia and abroad.

2. Tournament Structure

2.1. All participants of the Tournament are split into **teams**, each of which

- consists of **four** members (who may come from different schools, cities, etc.);
- takes part in the **main** team contest and three **thematic** team competitions;
- belongs to one of the two Leagues: **Senior** (grades 10–12) or **Junior** (grades 8–9), so that all its members compete in the same League throughout the entire event (i.e. a team that has at least one student of grade 10 through 12 automatically goes to the senior League in all the four contests).

2.2. **Mathematical Modeling Contest (MMC/“Mammoth”)** is the main team competition of the Tournament. The contest consists in solving one problem of open type that involves building and exploring a mathematical model of a specific situation from the real world.

- All teams receive the problem simultaneously at the beginning of the Tournament.
- Teams are given five days to solve the problem and submit their written solutions.
- At the end of the Tournament, a conference is held at which all teams present slides with and explain their solutions to the Jury and other teams orally.

2.3. In addition to MMC, the following three thematic team competitions are conducted:

- **Math Applied to Science Olympiad (MATS/“Primate”)**, which contains problems closely related to applications of mathematics to mechanics, physics, and other natural sciences;
- **Mathematics Around Us Olympiad (MAU/“Lobster”)**, which contains mathematical problems based on authentic real-life situations;
- **Optimisation Contest (OC/“Goat”)**, in which the participants are provided with adjustable computer models of certain objects that must be brought to a state as close to an optimal one as possible (the optimality criteria are described in the problem statement).

3. Tournament Organization

3.1. To prepare and conduct the Tournament and to assign the awards, the Organizing Committee, the Methodological Commission and the Jury of the Tournament are formed from representatives of M.V. Lomonosov Moscow State University, namely,

- from the Faculty of Mechanics and Mathematics, the Faculty of Physics, and the Faculty of Computational Mathematics and Cybernetics;
- from The Advanced Educational Scientific Center (faculty) – Kolmogorov boarding school of Moscow State University (hereinafter, AESC MSU).

Specialists from other organizations, including those from abroad, may also be involved in the Tournament.

3.2. The Organizing Committee of the Tournament, headed by the Director of AESC MSU, manages the organization of the Tournament, provides the material, technical, personnel, and financial support.

3.3. The Methodological Committee of the Tournament creates tasks for all competitions, develops the scoring criteria for solutions, and prepares methodological materials for publication.

3.4. The Jury of the Tournament, which comprises specialists with proper qualifications,

- organizes expert examination and scoring of the submitted solutions to contest tasks, performed by the staff of AESC MSU departments;
- if necessary, demonstrates to the participants their graded works and judges their appeals;
- sums up the results of the Tournament and determines the winners and awardees.

4. Rules of Scoring

4.1. The Tournament score is calculated as follows:

- the score of each team in a thematic team competition is an integer number of points from 0 to 400; in each of these competitions, the two best results are taken into account;
- the score of each team in the main contest is an integer number of points from 0 to 1000;
- ***the total Tournament score*** of a team is the sum of all its scores in the four competitions.

4.2. In each of the two Leagues separately, Tournament winners and awardees are determined

- for the main team competition;
- for each of the three thematic competitions;
- for the entire Tournament.

4.3. The winners and awardees in each nomination of the Tournament are awarded with diplomas of three degrees; other successful participants are awarded with certificates of merit, and the rest of the participants receive certificates of participation. All the diplomas and certificates are sent out electronically.