



MBIO

MBIO Operational Guidelines

Version: 1.0 Date: 05 October 2020

1. Introduction and history

1.1. Introduction

The Mendel's Biology International Olympiad (MBIO) is an annual competition for secondary school students (9th, 10th, 11th & 12th grades). Their skills in tackling biological problems, and dealing with biological experiments are tested. Interest in biology, inventiveness, creativity and perseverance are necessary.

1.2. Aims of the MBIO

The MBIO competition aims at secondary school students who are interested in biology. In bringing together gifted students, the MBIO challenges and stimulates students to expand their talents and to promote a career in science. The objectives of this competition are to:

- Stimulate active interest in biological studies;
- Promote networking and understanding between biology students;
- Promote and exchange ideas about biology education.

1.3. History

Mendel's Biology International Olympiad (MBIO) was named after Gregor Johann Mendel, an Austrian biologist, and botanist, monk - Augustinian. Founder of the doctrine of heredity. MBIO was founded by Myrzabek Alibayev in May 2017. Myrzabek Alibayev is a bronze medalist of IBO 2011 and coach of the Biology Olympiad of the international level. MBIO is held every year since 2017. The first MBIO was held on May 27, 2017.

2. MBIO Structure

2.1. Steering Committee

The Steering Committee(SC) operates as the managing board of the association. In addition, the Steering Committee is responsible for the following matters:

- Defining tasks for, and supervising of the MBIO Office and Coordinating Centre;
- Enforcing the rules of the MBIO Competition and taking the appropriate measures
- Making decisions in urgent, unregulated cases;
- Call for electronic voting;
- Ensuring all members are treated fairly and equally;
- Communicating all decisions to the Jury.

2.2. MBIO Office

The MBIO Office exists to support the MBIO Association in the broadest sense. It fulfills the following functions on behalf of, and under the authority of the SC:

- Providing information for all members;
- Maintaining public relations for the MBIO with other institutions;
- Maintaining a list of current contact information of country coordinators, their deputies, and organizations taking part in the MBIO Competition;
- Collecting materials and information regarding the MBIO and other biological competitions;
- Reporting about its activities at the General Assembly;
- Fundraising for the MBIO Association;
- Perform and coordinate MBIO-related research.

2.3. Coordinating Centre

The Coordinating Centre (CC) is the Olympiad Center of International "SAPAT" Educational Institutions. With the establishment of the MBIO Office, most tasks have been taken over by the MBIO Office, as described above. The CC will support the MBIO Office in its functions and will be actively involved in transferring its knowledge to the MBIO Office. The CC is responsible for the yearly organization of the MBIO. In case the MBIO Office is unable to fulfill its functions, the CC serves as a fallback option.

3. MBIO competition

3.1. Description

The Olympiad is held remotely 3 times per academic year in each trimester: MBIO fall, MBIO winter, and MBIO spring. It is organized by the Biology Department of Olympiad Center. All disciplines of biology are acceptable for the MBIO Competition. More widely oriented topics should enable the competitors to apply not only their knowledge and skills but also their ability to think independently and solve problems.

3.2. Examinations

3.2.1. General remarks

The MBIO Competition consists of theoretical examinations. All exams should be prepared in English, and a Russian translation may be required. The points available for each question must be available to the participants. Error carried forward must be applied for marking of all exams where applicable.

All examinations will be kept under embargo for one year after the MBIO Competition. Afterward, they will be published online on the MBIO website.

3.2.2. Theoretical exams

The MBIO theoretical tasks should test the competitors' understanding, processing skills, and application of biological knowledge. Questions should require understanding, rather than knowledge.

Theoretical questions should cover the following topics in the indicated proportions.

I Cell biology	(20 %)
Structure and function of cells and their components	
Microbiology	
Biotechnology	
II Plant anatomy and physiology	(15 %)
(with emphasis on seed plants)	
III Animal anatomy and physiology	(25 %)
(with emphasis on vertebrates and human)	
IV Genetics and Evolution	(20 %)
V Biodiversity	(10 %)
VI Ecology	(10 %)

3.2.3. Results and awards

The Jury should vet and approve the official results together with awards to individual competitors before the official announcement. The results will be proclaimed on an individual basis and not as a national team result. Each competitor will obtain a certificate that recognizes his/her participation in the MBIO. Medal certificates are awarded based on a mathematical procedure without discussion by the jury. In addition to medal certificates, the award of other prizes is possible, if agreed upon in advance by the jury.

The final ranking of the competitors is based upon their equally weighted scores for the theoretical tasks according to the t-score method.

Gold medal certificate $w = [0.1 n]$

The last gold medal winner is the one preceding the largest gap out of the three following the top w competitors.

Silver medal certificate $x = [0.3 n]$

The last silver medal winner is the one preceding the largest gap out of the three following the top x competitors.

Bronze medal certificate $y = [0.6 n]$

The last bronze medal winner is the one preceding the largest gap out of the three following the top y

It is possible to perform a re-calculation and medal certificate re-determination after the MBIO, mainly in cases of disqualification, or procedural errors. This will not reduce the medals that other competitors received during the IBO.