

**Federal State Autonomous Educational Institution of Higher Education "Moscow  
Institute of Physics and Technology  
(National Research University)"**

**APPROVED**  
**Vice Rector for Academic Affairs**

**A.A. Voronov**

**Work program of the course (training module)**

<b>course:</b>	Health Concepts & Strategies/Физическая культура
<b>major:</b>	Biotechnology
<b>specialization:</b>	Biomedical Engineering/Биомедицинская инженерия Phystech School of Biological and Medical Physics Department of Physical Education and Sport
<b>term:</b>	1
<b>qualification:</b>	Bachelor

Semester, form of interim assessment: 1 (fall) - Pass/fail exam

Academic hours: 60 AH in total, including:

lectures: 0 AH.

seminars: 60 AH.

laboratory practical: 0 AH.

Independent work: 30 AH.

In total: 90 AH, credits in total: 2

Authors of the program:

V.B. Gavrilov, head of the department

P.V. Bolgov, senior trainer teacher

The program was discussed at the Department of Physical Education and Sport 04.06.2020

## Annotation

The formation of knowledge, skills and abilities to use the methods and means of physical education to ensure full social and professional activities.

### 1. Study objective

#### Purpose of the course

To form a worldview system of practical knowledge and attitude to physical culture.

#### Tasks of the course

- To form an understanding of the social role of physical culture in the development of personality and its preparation for professional activities;
- to form the knowledge of the scientific, biological and practical foundations of physical education and a healthy lifestyle;
- to form a motivational-value attitude to physical culture, the attitude towards a healthy lifestyle, physical self-improvement and self-education, the need for regular exercise and sports.

### 2. List of the planned results of the course (training module), correlated with the planned results of the mastering the educational program

Mastering the discipline is aimed at the formation of the following competencies:

Code and the name of the competence	Competency indicators
UC-7 Maintain an adequate level of physical fitness to undertake social and professional activities	UC-7.1 Learn the basics of healthy living, health saving technologies, physical education
	UC-7.2 Understand the impact of physical education on health promotion and prevention of occupational diseases
	UC-7.3 Maintain one's physical fitness level; demonstrate general and professionally oriented physical agility; make various individual fitness plans

### 3. List of the planned results of the course (training module)

As a result of studying the course the student should:

know:

Scientific, practical and special foundations necessary for understanding the natural and social processes of the functioning of the physical culture of society and the individual, the ability to adapt and creatively use them for personal and professional development, self-improvement, and organizing a healthy lifestyle when performing educational, professional and sociocultural activities. Understand the role of physical culture in human development and specialist training.

be able to:

Use physical culture and sports activities to enhance their functional and motor capabilities, to achieve personal life and professional goals.

master:

A system of practical skills ensuring the preservation and strengthening of health, the development and improvement of psychophysical abilities and qualities (with the implementation of established standards for general physical and sports-technical training).

### 4. Content of the course (training module), structured by topics (sections), indicating the number of allocated academic hours and types of training sessions

#### 4.1. The sections of the course (training module) and the complexity of the types of training sessions

№	Topic (section) of the course	Types of training sessions, including independent work			
		Lectures	Seminars	Laboratory	Independent

		Lectures	Seminars	practical	work
1	General physical preparation.		16		10
2	Special physical preparation.		16		10
3	Professional and applied physical preparation		16		5
4	Theoretical preparation.		12		5
AH in total			60		30
Exam preparation		0 AH.			
Total complexity		90 AH., credits in total 2			

#### 4.2. Content of the course (training module), structured by topics (sections)

Semester: 1 (Fall)

##### 1. General physical preparation.

Education of physical qualities.

##### 2. Special physical preparation.

Special physical training.

##### 3. Professional and applied physical preparation

Professional and applied physical preparation

##### 4. Theoretical preparation.

The material of the section provides for the students to master the system of scientific, practical and special knowledge necessary for understanding the natural and social processes of the functioning of the physical culture of society and the individual, the ability to adapt and use them creatively for personal and professional development,

#### 5. Description of the material and technical facilities that are necessary for the implementation of the educational process of the course (training module)

- SK No.1,
- SK No. 2,
- swimming pool,
- stadium,
- tennis court,
- outdoor volleyball court,
- weight training equipment,
- cardio equipment,
- power equipment,
- sports game equipment,
- gym equipment.

#### 6. List of the main and additional literature, that is necessary for the course (training module) mastering

Main literature

1.

1 Подготовка спортсменов XXI века. Научные основы и построение тренировки. Пер. с англ. Athletes Training in the XXI Century. Scientific Basis and Training Structure. Автор: Иссурин В.Б. ISBN: 9785906839572; 2016 г. Издательство: Спорт

#### Additional literature

1 Теоретико-методические аспекты практики спорта. Theoretical and Methodological Aspects of Practical Sports. Авторы: Фискалов В.Д., Черкашин В.П. ISBN: 9785906839213; 2016 г. Издательство: Спорт

### 7. List of web resources that are necessary for the course (training module) mastering

<http://www.olympic.org/>  
<http://www.paralympic.org/>  
[http://www.olympic.org/uk/organisation/noc/index\\_uk.asp?id\\_assoc=8](http://www.olympic.org/uk/organisation/noc/index_uk.asp?id_assoc=8)  
[http://olympic.org/uk/organisation/if/index\\_uk.asp](http://olympic.org/uk/organisation/if/index_uk.asp)  
<http://www.iasi.org/>  
<http://www.google.com/Top/Sports/>  
<http://www.searchtheoutdoors.com/>  
<http://www.euro-football.ru/>

### 8. List of information technologies used for implementation of the educational process, including a list of software and information reference systems (if necessary)

1. International Olympic Committee <http://www.olympic.org/>
2. International Paralympic Committee <http://www.paralympic.org/>
3. International Olympic Committees  
[http://www.olympic.org/uk/organisation/noc/index\\_uk.asp?id\\_assoc=8](http://www.olympic.org/uk/organisation/noc/index_uk.asp?id_assoc=8)
4. International Sports Federations [http://olympic.org/uk/organisation/if/index\\_uk.asp](http://olympic.org/uk/organisation/if/index_uk.asp)
5. International Sports Information Association <http://www.iasi.org/>
6. Russian Olympic Committee <http://www.olympic.ru/>
7. Olympic Information Center [http://www.aafla.org/6oic/review\\_frmst.htm](http://www.aafla.org/6oic/review_frmst.htm)
8. Links to sports information centers [http://www.aafla.org/4sl/links\\_frmst.htm](http://www.aafla.org/4sl/links_frmst.htm)
9. SPORTQuest is a sports and informational user service provided by SIRC via the Internet. SPORTQuest is an excellent reference to sports science information sources.  
[http://www.sirc.ca/online\\_resources/sportquest.cfm](http://www.sirc.ca/online_resources/sportquest.cfm)
10. Sports Information Resource Center (SIRC) - identifies, collects, creates and distributes information on sports, fitness and related industries. SIRC is the creator of several sports and scientific information products <http://www.sirc.ca/>
11. Research Institute of Physical Culture, St. Petersburg <http://www.genoterra.ru/news/view/11/517>
12. Sports Media <http://www.infosport.ru/xml/t/bank.xml?nic=spec>
13. Virtual library of sports information; a collection of sports links <http://sportsvl.com/>
- "14. The Los Angeles Amateur Sports Foundation (AAFLA) is a research and training center whose goal is the development of sports science and education. The foundation has the largest scientific library in North America (Paul Ziffren Sports Resource Center).  
[http://www.aafla.org:8080/verity\\_templates/jsp/newsearch/search.jsp](http://www.aafla.org:8080/verity_templates/jsp/newsearch/search.jsp)"
15. Sports Digital Library <http://www.gssiweb.com/sportssciencecenter/topic.cfm?id=39>
16. Electronic catalogs of sports libraries <http://www.iasi.org/resources/catalogues.html>
17. The Central Industrial Library for Physical Culture and Sports of the Russian State University of Physical Culture and Sports. Search for information in an electronic catalog is available. The news section presents the materials of conferences held on the basis of SCOLIPE <http://lib.sportedu.ru/>

18. Library website of the Moscow State Academy of Physical Culture  
<http://www.mgafk.ru/academy/bibl.htm>
19. UralGUFK electronic catalog  
[http://elibrary.uralgufk.ac.ru/scripts/zgate.exe?Init+uralgafk.xml,simpl\\_uralgafk.xml+rus](http://elibrary.uralgufk.ac.ru/scripts/zgate.exe?Init+uralgafk.xml,simpl_uralgafk.xml+rus)
20. Siberian State University of Physical Culture Library  
<http://www.sibsport.ru/www/sibsport.nsf/0/5638BC150E2675F546256E62002384EB?opendocument>
21. Sports Science Institute <http://www.gssiweb.com/>
22. Sport and Society Internet Sources <http://sportsci.org/index.html?jour/03/03.htm&1>
23. The science of coaching (Abstracts) <http://www-rohan.sdsu.edu/dept/coachsci/index.htm>
24. Collection of documents in the field of physical education  
<http://www.ucalgary.ca/library/ssportsite/archives.html>
25. Sports medicine <http://www.fims.org/fims/frames.asp>
26. Sports science. Contains information about sports medicine, nutrition of athletes, etc.  
<http://www.sportsci.org/>
27. Sports resources <http://www.iasi.org/resources/index.html>
28. Sports Encyclopedia <http://www.infosport.ru/sp/>
29. World Anti-Doping Agency <http://www.wada-ama.org/en/dynamic.ch2>
30. WORLD ANTI-DOPING CODE in Russian [http://lib.sportedu.by/internet/title/code\\_ru.pdf](http://lib.sportedu.by/internet/title/code_ru.pdf)
31. Doping declaration [http://www.sportunterricht.de/lksport/Declaration\\_e.html](http://www.sportunterricht.de/lksport/Declaration_e.html)

## **9. Guidelines for students to master the course**

Literature for independent work.

**Assessment funds for course (training module)**

**major:** Biotechnology  
**specialization:** Biomedical Engineering/Биомедицинская инженерия  
Phystech School of Biological and Medical Physics  
Department of Physical Education and Sport  
**term:** 1  
**qualification:** Bachelor

Semester, form of interim assessment: 1 (fall) - Pass/fail exam

**Authors:**

V.B. Gavrilov, head of the department  
P.V. Bolgov, senior trainer teacher

## 1. Competencies formed during the process of studying the course

Code and the name of the competence	Competency indicators
UC-7 Maintain an adequate level of physical fitness to undertake social and professional activities	UC-7.1 Learn the basics of healthy living, health saving technologies, physical education
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## 2. Competency assessment indicators

As a result of studying the course the student should:

### know:

Scientific, practical and special foundations necessary for understanding the natural and social processes of the functioning of the physical culture of society and the individual, the ability to adapt and creatively use them for personal and professional development, self-improvement, and organizing a healthy lifestyle when performing educational, professional and sociocultural activities. Understand the role of physical culture in human development and specialist training.

### be able to:

Use physical culture and sports activities to enhance their functional and motor capabilities, to achieve personal life and professional goals.

### master:

A system of practical skills ensuring the preservation and strengthening of health, the development and improvement of psychophysical abilities and qualities (with the implementation of established standards for general physical and sports-technical training).

## 3. List of typical control tasks used to evaluate knowledge and skills

Not provided.

## 4. Evaluation criteria

1. Physical culture in the system of cultural values.
2. Physical education in the University.
3. The history of the Olympic Games origin and evolution.
4. Control, self-control in physical education and sports. Prevention of injuries.
5. Morning hygienic gymnastics and its significance. The complex of morning hygienic gymnastics.
6. Students healthy lifestyle.
7. Symbols and attributes of the Olympic Games.
8. Motion mode and its meaning.
9. Physical education and sport as social phenomena.
10. The role of calisthenics in physical education.
11. Volleyball. The history of the game origin and evolution. Rules of the game.
12. Basketball. The history of the game origin and evolution. Rules of the game.
13. Forms of independent exercise.
14. Recreation physical education and its forms. The effect of recreation physical education on the body.
15. Athletic gymnastics and its effect on the body.
16. Running as a health improving method.
17. Scientific organization of labor: fatigue, mode, physical inactivity, working capacity, physical activity, self-education.

18. Hygienic and natural factors of nature: mode of work and rest; biological rhythms and sleep; science of body weight and human nutrition.
19. The formation of motor skills.
20. Education of the basic physical qualities of a person (definition of a concept, methods of education of quality).
21. Basics of sport training.
22. Physical education in general cultural and professional preparation of the student.
23. An organism as a self-developing and self-regulating biological system.
24. Anatomical and morphological features and basic physiological functions of the body.

The number of points that a student scored based on the results of work during the semester are the basis for the intermediate certification of a student in discipline.

Hereinafter, the results of intermediate certification or re-intermediate certification are set as follows:

"Set off" - 25 points or more;

"Not counted" - less than 25 points.

## **5. Methodological materials defining the procedures for the assessment of knowledge, skills, abilities and/or experience**

For students who are exempted from practical classes or who have missed more than 15 classes for good reason, intermediate certification is carried out in the form of an oral theoretical test. Points earned before this are not taken into account. The student is assigned 15 questions from the semester block, the answer to each of which is estimated from 0 to 2 points.