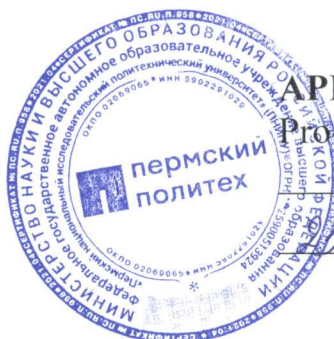


Ministry of Science and Higher Education of the Russian Federation

Federal State Autonomous Educational Institution of Higher Education
Perm National Research Polytechnic University



APPROVED BY

Pro-rector for Academic Affairs

N.V. Lobov

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2021

ACADEMIC COURSE WORKING PROGRAM

Academic course: Physical training
(Name)

Form of education: Full-time
(Full-time /full-time - correspondence/correspondence)

Level of higher education: Bachelor's program
(Bachelor's program/specialist program/Master's program)

Workload in hours (in credits): 72 (2)
(Hours (CU))

Training program (degree): 15.03.06 Mechatronics and Robotics
(Code and denomination of degree)

Direction: Mechatronics and Robotics
(Title of curriculum)

Perm 2021

1. General Provisions

1.1. Goals and Objectives of the Course

The goal of the discipline is to form the physical culture of the individual and the use of various means of physical culture, sports and tourism to preserve and strengthen health, to form psychophysical preparation and self-preparation for the future professional activity.

1.2. Studied Objects of the Course

The content of the course covers the following aspects:

- understanding the social role of physical culture in the development of a person and preparing it for professional activity;
- knowledge of scientific and biological, pedagogical and practical foundations of physical culture and healthy lifestyle;
- formation of a motivational-value attitude to physical culture, attitudes towards healthy lifestyle, physical self-improvement and self-education, needs for regular exercise and sports;
- mastering a system of practical skills and abilities that ensure the preservation and strengthening health, mental well-being, development and improvement of psychophysical abilities, qualities and personality traits, self-determination in physical culture and sports;
- acquisition of personal experience in improving motor and functional capabilities, ensuring general and professionally applied physical fitness for the future profession and everyday life;
- creation of a basis for creative and methodically grounded use of physical culture and sports activities for the purpose of subsequent life and professional achievements.

1.3. Starting Conditions

Unstipulated

2. Planned Results of the Course Training

Competence	Indicator's Index	Planned Results of the Course Training (to know, to be able to, to master)	Indicator of Attaining Competence which the planned results of training are correlated with	Means of Assessment
UC-7	IA-1.UC-7	To know basic definitions physical culture; scientific and biological, pedagogical and practical basics physical culture and healthy lifestyle; the basics of the technique self-study physical exercises; features use of funds physical education for optimization performance; influence of health systems of physical education on improvement of health, prevention of professional diseases and harmful habits.	Knows the level of requirements and principles of level assessment of physical preparedness for social and professional work; ways and methods of increasing level of physical human development.	Control work

UC-7	IA-2.UC-7	To be able to perform complexes of wellness physical education, rhythmic composition and aerobic gymnastics, sets of athletic gymnastic exercises; perform various general developmental exercises, and also exercises of professionally applied physical preparation; - perform the simplest self-massage and relaxation techniques; to carry out creative cooperation in collective forms of physical culture activity.	Is able to assess level of physical preparedness for subsequent professional activities; monitor the state of his physical development and manage this condition.	Control work
UC-7	IA-3.UC-7	To master a system of practical skills and abilities that ensure the preservation and strengthening of health, mental well-being, the development and improvement of psychophysical abilities, qualities and personality traits, self-determination in physical culture and sports; methods of self-control of those involved in physical exercise and sports; values of physical culture of a person for successful social, cultural and professional activity.	Masters the skills to assess, control and manage the state of physical development; to determine a sufficient (comfortable) state for a full-fledged social and professional activity.	Test

3. Full time and forms of academic work

Form of academic work	Hours in all	Distribution in hours according to semesters		
		Number of semester		
		1		
1. Holding classes (including results monitoring) in the form:	28	28		
1.1. Contact classwork, including:				
- lectures (L)	8	8		
- laboratory work (LW)				
- practice, seminars and/or other seminar-type work (PW)	16	16		
- control of self-work (CSW)	4	4		
- test				
1.2. Students' self-work (SSW)	44	44		
2. Intermediate attestation				

Exam				
Grading test				
Test (Credit)				
Course Project (CP)				
Course Work (CW)				
Workload in hours	72	72		

4. Course outline

Name of the units with the course outline	Full time of classroom activity in hours according to the forms			Full time of extracurricular work in hours according to the forms
	L	LW	PW	SSW
semester				
Physical culture in general cultural and professional training of students.	1	0	0	4
Basic concepts. Physical culture and sports as social phenomena of society. Modern state of physical culture and sports. Federal Law "On Physical Culture and sports in the Russian Federation". Physical culture of a person. The values of physical culture. Physical culture as an academic discipline in higher education and holistic development of a person.				
Socio-biological foundations of physical culture.	1	0	0	6
The human body as a single self-developing and self-regulating biological system. Impact of natural and socio-ecological factors on the body and human activity. Physiological mechanisms and nature of the improvement of individual systems of the body under the impact of directed physical training.				
Lifestyle and its reflection in professional activities	1	0	0	8
Human health as a value and factors that determine it. The relationship between the general culture of the student and his lifestyle. A healthy lifestyle and its components. Basic requirements for the organization of a healthy lifestyle. Physical self-education and self-improvement in a healthy lifestyle. Criteria for the effectiveness of a healthy lifestyle.				
General physical and sports training of students in the educational process.	1	0	0	6
Methodical principles of physical education. Physical education methods. Bases of teaching movements. The bases of improving physical qualities. Formation of mental qualities in the process of physical education General physical training, its goals and objectives. Special physical training. Sports training, its goals and objectives. The structure of an athlete's fitness. Zones and intensity of physical activity. The value of muscle relaxation. Possibility and conditions for correction of				

physical development, physique, motor and functional readiness by means of physical culture and sports at student age. Forms of physical exercises. Educational and training lessons as the main form of teaching physical exercises. The structure and focus of the training session.				
Methodical bases of independent physical exercises.	1	0	0	6
Motivation and purposefulness of independent classes. Forms and content of independent classes. Organization of self-study physical exercises of various focus. Planning and management of self-study. The relationship between intensity of exercises and level of physical preparedness. Hygiene of independent classes. Self-control of efficiency of self-study. Participation in sports competitions.				
Sports. Individual choice of sports or exercise systems.	1	0	2	8
Mass sport and sport of the highest achievements, their tasks and goals. Sports classification. Student sport. Features of the organization and planning of sport training at the university. Sports competitions as a means and method of general physical, professionally applied, sports training of students. System of student sports competitions. Public student sports organizations. Olympic Games and Universiades. Modern popular systems of physical exercises. Motivation and rationale of student's individual choice of sports or exercise systems for regular classes. Brief psychophysiological characteristics of the main groups of sports and systems of physical exercises.				
Self-control of those involved in physical exercise and sports.	1	0	2	8
Diagnostics and self-diagnosis of the state of the body with regular exercise and sports. Medical control, its content. Pedagogical control, its content. Self-control, its basic methods, indicators and self-control diary.				
Professionally applied physical training (PAPT) of future specialists.	1	0	2	8
Personal and socioeconomic need for special psychophysical training of a person to work. Definition of the concept of PAPT, its purpose, tasks, means. Place of PAPT in the system of physical education of students. Factors determining the specific content of PAPT. Methodology for the selection of PAPT funds. Organization, forms and means of PAPT of students at the university. Control of the effectiveness of professionally applied physical fitness of students.				
Total with regard to semester	8	0	8	54
Total with regard to the course	8	0	8	54

Topics of exemplary practical work

Sl. №	Topic of practical (seminar) work
1	Methods of effective and economical ways to master vital skills (walking, running, moving skiing, swimming, etc.)
2	Methods for evaluating and self-evaluating of performance, tiredness and fatigue
3	Methods of individual programs drawing up physical self-education and health-improving, recreational and restoration orientation.
4	Methods for self-monitoring of health and physical development
5	Methods of self-control of the functional state of the body
6	Methods for research of the level of health and physical condition
7	Methods of an individual approach and the use of funds for the directed development of physical qualities
8	Methods of self-assessment of physical and sports readiness for the chosen sport (tests, control tasks)

Topics of exemplary laboratory practice

Sl. №	Topic of laboratory work
	Unstipulated

5. Organizational and Pedagogical Conditions

5.1. Educational Technologies Used for Competences Formation

Holding lectures in the discipline is based on the active method of training in the process of which students are not passive but active participants of the lesson answering questions of the teacher. Teacher's questions are aimed at activating the process of learning material as well as at the development of logical thinking. The questions stimulating associative thinking and connecting new material with the previous one are identified by the teacher in advance.

Practical lessons are held by realization of the method based on active training: problem areas are determined, groups are formed. The following aims are pursued in the process of practical education: use of definite disciplines knowledge and creative methods in solving problems and decision-making; students skill-building of teamwork, interpersonal communication and development of leadership skills; consolidation of the basic theoretical knowledge.

Interactive lectures, group discussions, role-playing games, training sessions, and analysis of situation and simulation models are used in academic studies.

5.2. Students' Manual for the Course Study

Learning the course students are recommended to fulfill the following positions:

1. Learning of the discipline should be done systematically.
2. After learning one of the course units with the help of the text-book or lecture notes it is recommended to reproduce in memory the basic terms, definitions, notions of the unit.
3. Special attention should be paid to the reports on practical studies, laboratory works and individual complex tasks for self-work.
4. The topic of questions studied individually is given by the teacher at the lectures. Also the teacher refers to the literary resources (first of all, to the newly published in periodicals) in order the students understand the problems touched at the lectures in detail.

6. List of Teaching Materials and Information Supply for Students' Self work in the Discipline

6.1. Paper-based courseware

Sl.No	Bibliographic entry (author, title, mode of publication, place, publishing house, year of publication, number of pages)	Number of copies in the library
1. Basic literature		
2. Additional literature		
2.1. Educational and scientific literature		
1	Paland N., Schwedes R. Occupational Safety and Health in Germany : An Overview. Bonn : Federal Min. of Labour & Social Affairs, 1991. 95 p.	1
2	Cockerham W.C. Medical Sociology. 9 ed Upper Saddle Ri : Pearson Education, 2004. 420 p.	1
2.2. Standardized and Technical literature		
Not used		
3. Students' manual in mastering discipline		
Not used		
4. Teaching and learning materials for students' self work		
Not used		

6.2. Electronic Courseware

Kind of literature	Name of training tool	Reference to information resource	Accessibility of EBN (Internet/local net; authorized free assess)
Additional literature	Fischer, David. The encyclopedia of the Summer Olympics	https://www.britanica.com/sports/Olympic-Games	the local network; Free access; Internet Archive
Main literature	Prentice, William E. Fitness for College and Life Payne, Wayne A. Understanding your Health	http://irbis.cfuv.ru:8080/cgibin	the local network; Free access; Internet Archive

6.3. License and Free Distributed Software used in the Course Educational Process

Type of Software	Software branding
OS	Windows 10 (подп. Azure Dev Tools for Teaching)
Office applications	Adobe Acrobat Reader DC. Free PDF viewer
Office applications	Microsoft Office Professional 2007. persons. 42661567

6.4. Modern Professional Databases and Inquiry Systems Used in the Course Educational Process

Branding	Reference to information resource

Scientific Library of the Perm National Research Polytechnic University	http://lib.pstu.ru/
Lan electronic library system	https://e.lanbook.com/
Electronic library system IPRbooks	http://www.iprbookshop.ru/
Information resources of the Network Consultant Plus	http://www.consultant.ru/

7. Logistics of the Course Educational Process

Type of classes	Name of the necessary basic equipment	Number of units
Lecture	Projector and laptop	1
Practical occupation	Projector and laptop	1

8. Fund of the Course Evaluating Tools

In the separated file