

## Contents

1.	General and structure of discipline .....	4
2.	Definition, purpose and tasks of discipline .....	5
3.	Structure of credits .....	6
4.	The themes plans .....	8
	4-A The lectures thematic plan .....	8
	4-B The practice parts thematic plane .....	9
	4-B The students independent works kinds .....	10
5.	Estimation of studying .....	10
	5-A The maximal and minimal balls and conversation scales .....	10
6.	The practical skills content .....	11
7.	The control questions .....	12

## 1. GENERAL INFORMATIN AND STRUCTURA OF DISCIPLINE

**Studying discipline:** «*The physical rehabilitation and sports medicine*»

**Studying on 4-th course (VII or VIII terms).**

**The content is structured on 1 control module ( is composed 6 thematic modules (Table 1.1).**

**The general hours amount – 90 hours (3,0 credits ECTS).**

Table 1.1

### The plan of study

Structure	Amount of hours				Year of study (term)	Kind of control
	Together	lections	practice	independent work		
<b>MODULE 1</b> Thematic modules – 6	<b>90 hours (3 credits)</b>	20	40	30	4-th (7 or 8 term)	The practical skills, theoretic questions, tests control

The base of study – cathedra of physical rehabilitation, sports medicine and valeology ( Sevastopolska str., 17).

- The head of cathedra – д.мед.н., професор Abramov Victor Vasilevich (кор. 4, room 35).

The cathedra telephone number: **(8056) 744-32-96.**

## 1. THE DEFINITION, PURPOSE AND TASKS OF DISCIPLINE

The motor activity is the major condition of life and normal functioning of the man, which has not only biological, but also social importance. Therefore, definition of an optimum dose of physical loads not only the competence of sports doctors, but also has the direct relation to the doctors almost of all specialities. Is not present of the unit of clinical medicine, in which there would be no questions connected with the motor modes, and also, with the usage of physical exercises as means of preventive maintenance and improvement, treatment and restoration.

The *sports medicine* is a clinical discipline, which studies positive and negative influence of physical loads of different intensity (from hypo- up to hyperdynamy) on the body of a healthy and sick person.

The purpose: optimisation of motor activity of the man for improvement and strengthening of health, increase of a functional condition level, growth of sports achievement, and also preventive maintenance and treatment of diseases.

The main tasks of the sports medicine: 1) the definition of a condition and level of health, and also conformity of physical loads to functionalities of a body at different stages improving or sports training; 2) duly qualified medical aid in case of infringement of health, which are connected with occupations by sports or physical culture; 3) participation in the training process management; 4) sanitary - hygienic and medical maintenance of training process; 5) realisation of the rehabilitation of the persons, who are engaged in physical culture and sports, after diseases and injuries.

*Physical rehabilitation* is a part of medical and social rehabilitation. One of the most impotent mean of physical rehabilitation is the medical physical culture - method of treatment, which uses means of physical culture for restoration of health and work capacity of the patient. It's method of active, functional, pathogenetic and training therapy.

The method of medical physical culture facilitates and accelerates processes of rehabilitation of physiological functions of the patient, causes increase of functional reserves and functional adaptation to household and professional loads.

### **Final purposes of the discipline studying:**

1. Open up the modern methodic of analyze and prognosis by physical exertions act to person, who takes part in physical culture and sport to increasing positive influence of training and prophylactic the health deviations, which arise at inadequate improving or sports training.
2. Open up the modern means and methods of physical rehabilitation to treatment the patients have different pathology.

## 2. THE CREDITS STRUCTURA (Table 3.1).

Table 3.1

**MODULE 1. THE PHYSICAL REHABILITATION AND SPORTS MEDICINE**

<b>№</b>	<b>Theme</b>	<b>Lections</b>	<b>Practice</b>	<b>Independent work</b>
<b><i>Thematic module 1. Medical control in physical culture and sport</i></b>				
1.	Modern representations about sports medicine (SM). The history of science development. The purposes and tasks of the medical control (MK).	2	2	-
2.	The complex methodic of medical inspections. The physical development investigation and estimation.	-	2	1
3.	The functional condition of cardiovascular, respiratory and automatic nervous systems investigation and estimation with functional tests.	2	2	1
4.	The analyze of complex medical investigations results. The medical conclusion.	-	2	1
5.	The physical work capacity investigation and estimation. The tolerance to physical exertion.	1	2	1
6.	The physical (somatic) health quantitative estimation.	1	2	1
<b><i>The thematic module 2. The physical exertion by different intensity influence on body estimation</i></b>				
7.	General characteristic the physical exertion by different intensity on man influence.	1	2	1
8.	Prepathological conditions and pathological changes, which arise at irrational occupation of physical culture and sports.	1	2	1
9.	The means of recreation and rehabilitation for physical culture and sports.	-	2	1
<b><i>The thematic module 3. General base of physical rehabilitation. The physical rehabilitation for internal medicine.</i></b>				
10.	The general base of PR. Medical physical culture (MPC) in system of PR.	1	2	1
11.	The bases of massage.	1	2	1
12.	The PR for cardiovascular diseases.	2	2	1

13.	The PR for diseases of respiratory, digestive systems, rens and metabolism damages.	2	2	1
<b><i>The thematic module 4. The PR in surgery, traumatology and orthopedy.</i></b>				
14.	The PR for chest and abdominal surgical operations.	1	2	1
15.	The PR in traumatology and orthopedy.	1	2	1
<b><i>The thematic module 5. The PR in neurology.</i></b>				
16.	The PR of central nervous system injuries and diseases.	1	2	1
17.	The PR of peripheral nervous system injuries and diseases.	1	2	1
<b><i>The thematic module 6. The PR in pediatriy, obstetrics and gynecology.</i></b>				
18.	The peculiarities by pediatric PR The PR of sick children by different age.	1	2	1
19.	The PR in obstetrics and gynecology.	1	2	1
	<b><i>Independent work</i></b>			8
	<b><i>The final control</i></b>	-	2	4
<b>TOGETHER:</b>		<b>20</b>	<b>40</b>	<b>30</b>
<b>TOGETHER HOURS – 90 (3 credits)</b>		<b>20</b>	<b>40</b>	<b>30</b>

#### 4. THE THEMES PLANS.

**MODULE 1. THE PHYSICAL REHABILITATION AND SPORTS MEDICINE****4.1. The lecture thematic plane (table 4.1.1):****Table 4.1.1**

<b>№</b>	<b>The lecture theme</b>	<b>Hours</b>
1.	Modern representations about sports medicine (SM). The history of science development. The purposes and tasks of the medical control (MK). The modern methods of sportsman investigation.	2
2.	The functional condition investigation and estimation with functional tests.	2
3.	The physical work capacity and its relation with health.	2
4.	Prepathological conditions and pathological changes, which arise at irrational occupation of physical culture and sports. The doping.	2
5.	The general base of physical rehabilitation (PR) and massage.	2
6.	The PR for cardiovascular diseases.	2
7.	The PR for diseases of respiratory, digestive systems, renal and metabolism damages.	2
8.	The PR in surgery, traumatology and orthopedy.	2
9.	The PR in neurology.	2
10.	The PR in pediatrics, obstetrics and gynecology.	2
<b>HOURS:</b>		<b>20</b>

**4.2. The thematic plan of practice part (table 4.1.2):**

Table 4.1.2

№ Class (hours)	№ theme	The practice theme	Hours
№ 1 (4)	1.	The complex medical investigation the persons who are training.	2
	2.	The physical development investigation and estimation.	2
№ 2 (4)	3.	The functional condition of cardiovascular, respiratory and automatic nervous systems investigation and estimation with functional tests.	2
	4.	The analyze of complex medical investigations results. The medical conclusion.	2
№ 3 (4)	5.	The physical work capacity investigation and estimation. The tolerance to physical exertion.	2
	6.	The physical (somatic) health quantitative estimation.	2
№ 4 (6)	7.	General characteristic the physical exertion by different intensity on man influence.	2
	8.	Prepathological conditions and pathological changes, which arise at irrational occupation of physical culture and sports. The doppings.	2
	9.	The means of recreation and rehabilitation for physical culture and sports	2
№ 5 (6)	10.	The general base of PR. Medical physical culture (MPC).	2
	11.	The bases of massage.	2
	12.	The PR for cardiovascular diseases.	2
№ 6 (6)	13.	The PR for diseases of respiratory, digestive systems, rens and metabolism damages.	2
	14.	The PR for chest and abdominal surgical operations.	2
	15.	The PR in traumatology and orthopedy.	2
№ 7 (6)	16.	The PR of central nervous system injuries and diseases..	2
	17.	The PR of peripheral nervous system injuries and diseases.	2
	18.	The peculiarities by pediatric PR The PR of sick children by different age.	2
№ 8 (4)	19.	The PR in obstetrics and gynecology.	2
	20.	<i>The final control</i> “The physical medical rehabilitation and sports medicine”.	2
<b>HOURS:</b>			<b>40</b>

## 4.3. The kinds of independent work (table 4.1.3):

Table 4.1.3

№	The kinds of independent work	Hours
1.	The preparing to practice (p. 3.2.2); reference of literature; the practical skills forming.	18
2.	The medical cards writing (form № 061/o or №162/o, №42/o).	4
3.	The individual tasks making: the report preparing or scientific work, publication.	4
<b>HOURS:</b>		<b>30</b>

## 5. ESTIMATION OF STUDYING

### 5-A The maximal and minimal balls and conversation scales.

#### **MODULE 1. THE PHYSICAL REHABILITATION AND SPORTS MEDICINE**

The module mark is the result of current study and control marks summe.

The maximal module ball is **200** (for current study – **120**, and control work – **80**).

The maximal number of each theme ball is **6**. The number of themes in module is **19**.

The conversation scale:

The standard mark „5” – **6** The balls  
 „4” – **4**  
 „3” – **2**  
 „2” – **0**

**The individual tasks estimation.** After maintenance of individual work the student resave – **6, 4** or **2** balls.

Table 5.1

### The study estimation

Module 1	The balls	
	maximal	minimal
<i>The current study</i>	<b>114</b> (6 balls x. 19 themes)	<b>38</b> (2 balls x. 19 themes)
<i>The individual task's making</i>	<b>6</b>	<b>2</b>
<i>Altogether for current study</i>	<b>120</b>	<b>40</b>
<i>Final control</i>	<b>80</b>	<b>50</b>
<b>ALTOGETHER:</b>	<b>200</b>	<b>90</b>

## 6. THE PRACTICAL SKILLS CONTENT

**The sport medicine practical skills content:**



- Open up the complex medical investigation methodic of person to make diction about passing him to physical training and sport;
- To make the somatoscopy and somatometry to estimate the physical development and to correct of training process;
- To make the functional tests of cardiovascular, respiratory and automatic nervouse systems to functional condition estimation and training process correction;
- To make the physical work capacity and tolerance threshold to physical exertion investigation and estimation to give the optimal motor mode recommendations;
- The physical health investigation and estimation to give recommendations it increasing by physical culture means;
- To diagnose and treat of early symptoms the overfutique, acute and chronic overexertion, others diseases and sports injuries, which arise at irrational occupation of physical culture and sports;
- An estimation of conditions, organisation both realisation of trainings and competitions. Definition of influence of trainings and competitions on body of the persons, which are engaged in sports or physical culture;
- To prescribe the functional properties, physical work capacity and physical health restoration means and method, after physical culture and sport occupation;

***The physical rehabilitation practical skills content:***

- To make the functional state and motor functions inspection and investigation in patients with different pathology to prescribe the physical rehabilitation means;
- To prescribe the optimal motor mode, passive and active physical exercises, others physical rehabilitation means (massage) to sick in depend on pathology character, disease stage, individual peculiarities (age, sex, physical properties) and physical rehabilitation stage;
- To diagnose the contraindications to medical physical culture;
- To make prescription the PR means and methods to patients with cardiovascular, respiratory, digestive systems pathology and metabolism disturbances in different treatment stages;
- To make prescription the PR means and methods to patients with nervous system diseases and injuries in different treatment stages;
- To make prescription the PR means and methods to patients with thoracic and abdominal surgical diseases before and after operative treatment;
- To make prescription the PR means and methods to patients with traumatology diseases;
- To make prescription the PR or physical medical culture means and methods to patients with pregnancy (normal, complications), childbirth, after childbirth, with different gynecological pathology;
- To make prescription the PR or physical medical culture means and methods to children in pediatric practice;

**7. THE CONTROL QUESTIONS**

## **MODULE 1. THE PHYSICAL REHABILITATION AND SPORT MEDICINE**

### **The thematic module 1. Medical control in physical culture and sport.**

#### **Theme 1. Modern representations about sports medicine (SM). The history of science development. The purposes and tasks of the medical control (MK).**

1. The definition of SM as clinical discipline. The basic directions SM.
2. Influence of physical loads different intensity on body of the man.
3. The medical control as clinical discipline. The purposes and tasks of the medical control (MK).
4. System of organisation of a medical-sports service.
5. Medical investigation peculiarities of person who are training.
6. The kinds of medical investigations. The medical control for different age and sex patients peculiarities.
7. An estimation of conditions, organisation both realisation of trainings and competitions.

#### **Theme 2. The complex medical investigation methodic.**

8. The complex medical investigation methodic by patients who are training, the kinds of investigations.
9. The receipts of common and sport anamnesis peculiarities.
10. The common investigation of organs and systems peculiarities.
11. The dates percussion and auscultation by sportsmen of hart analyze and estimation. The physiological criterions of training persons.
12. «The physical development» definition. The physical development influence factors.
13. The methods of physical development investigation (somatoscopy and anthropometry).
14. The methods of physical development estimation (standards, anthropometrical structure and indexes).
15. The physical development harmonization and correction recommendations.

#### **Theme 3. The functional condition of cardiovascular, respiratory and automatic nervous systems investigation and estimation with functional tests.**

16. The definition of functional condition. The main tasks of functional investigation.
17. The definition of functional test. The functional tests kinds.
18. The functional test with breath holding (Shtange and Henchy). The methodic and estimation.
19. The functional test with body position changes (orthostatic and clinostatic). The methodic and estimation.
20. The functional test with physical loads.
21. The Martine test methodic.
22. The types of cardiovascular system responses to physical exertion.

#### **Theme 4. The complex medical investigation results. The medical conclusion.**

23. The analyze of complex medical investigation results. The medical conclusion.
24. The medical groups.
25. The age of passing of children to training.

**Тема 5. *The physical work capacity and aerobic productivity investigation and estimation. The tolerance threshold.***

26. Definitions of physical work capacity and tolerance threshold.
27. The direct and indirect of physical work capacity investigation methods.
28. The indications and contraindications to testing. The conditions of testing.
29. The clinic and functional symptoms of tolerance threshold to physical training.
30. The PWC<sub>170</sub> test methodic (cyclergometry, stepergometry).
31. The methods of maximal oxygen consumption investigation.
32. The tests Rufé, Navvacki, Harvard step-test, Cooper's test: methodic and estimation.
33. The physical health and physical work capacity relation.

**Theme 6. *Quantitative estimation of a level of physical (somatic) health. The individual physical culture motor modes.***

34. The definition «level» of physical (somatic) health of the man.
35. «Adaptation» and «power» concept of definition of quantity of health.
36. The definition «biologic age».
37. A express-estimation of a level of physical health the population at routine inspections (for G.L. Apanasenko, 1992 p.). Concept «a safe level of health».
38. The individual physical culture motor modes..

**The thematic module 2. The physical exertion by different intensity influence on body estimation**

**Theme 7. *General characteristic the physical exertion by different intensity on man influence.***

39. General characteristic the physical exertion by different intensity on man influence (Hypo-, optimal, hypodynamia).
40. The changes in cardiovascular, respiratory, digestive, immune and endocrine systems after optimal physical exertions.

**Theme 8. *Prepathological conditions and pathological changes, which arise at irrational occupation of physical culture and sports.***

41. The definition of acute and chronic overexertion.
42. The reasons of occurrence of pathological condition, diseases and damages during employment by physical culture and sports.
43. Risk of sudden death during employment by physical culture and sports.
44. Dystrophy of myocardium. Infringement of a rhythm of heart. Hyper- and hypotonic conditions.
45. Definition of «physiologic» and «pathologic sport heart».
46. Diseases and injuries of nervous system.
47. Diseases of digestion system.
48. Hepar pain syndrome.
49. Diseases ear, throat, nose.
50. Diseases of urogenital system.

51. Diseases of endocrine system.

**Theme 9. *The means of recreation and rehabilitation for physical culture and sports.***

- 52. Physiological mechanisms of restoration processes.
- 53. The eating as restoration factor of physical work capacity.
- 54. Medico-biological means of restoration.
- 55. The pharmacology means of overfatigue prophylactic and physical work capacity restoration.
- 56. Application of toughing for preventive maintenance of diseases.
- 57. Doping classification. Antidoping control.

**The thematic module 3. General base of physical rehabilitation. The physical rehabilitation for internal medicine.**

**Тема 10. *The general base of PR***

- 58. Definition «physical rehabilitation». The means, forms and methods by PR. The periods and stages of PR.
- 59. Physical exercises – the main mean of physical PR. Physiological mechanisms of medical action of physical exercises. The physical exercises classification.
- 60. The indications and contraindications to medical gymnastic.
- 61. The motor modes. The indication to prescription of motor modes on different stages of rehabilitation, tasks and contents.

**Theme 11. *The bases of massage.***

- 62. The bases of massage.
- 63. The kind of massage. The indications and contraindications to massage. Physiological mechanisms of medical action of medical massage.
- 64. The main massage acts.

**Theme 12. *The PR for cardiovascular diseases.***

- 65. The indications and contraindications to PR means prescription to patients with cardiovascular diseases.
- 66. The tasks and peculiarities of PR methodic in patients with myocardium infarction. Special exercises.
- 67. The tasks and peculiarities of PR methodic in patients with angina pectoris. Special exercises.
- 68. The tasks and peculiarities of PR methodic in patients with hypo- and hypertony. Special exercises.

**Theme 13. *The PR for diseases of respiratory, digestive systems, rens and metabolism damages.***

- 69. The indications and contraindications to PR means prescription to patients with bronchoectasy.
- 70. The tasks and peculiarities of PR methodic in patients with acute bronchitis and pneumonia. Special exercises.
- 71. The tasks and peculiarities of PR methodic in patients with chronic bronchitis, asthma, pleuritis. Special exercises.

72. The indications and contraindications to PR means prescription to patients with digestive system diseases.
73. The tasks and peculiarities of PR methodic in patients with chronic gastritis and ulcer of duodenum. Special exercises.
74. The indications and contraindications to PR means prescription to patients with rens pathology and metabolism disturbances.
75. The tasks and peculiarities of PR methodic in patients with obesity and diabetes.

**The thematic module 4. The PR in surgery, traumatology and orthopedy.**

**Theme 14. *The PR for chest and abdominal surgical operations.***

76. The indications and contraindications to PR means prescription to surgical patients.
77. The tasks and peculiarities of PR methodic in patients before and after surgical operations on thoracic and abdominal organs. Special exercises.

**Theme 15. *The PR in traumatology and orthopedy.***

78. The indications and contraindications to PR means prescription to trumatology patients.
79. The tasks and peculiarities of PR methodic in patients depends on rehabilitative stage (immobilithation, postimmobilithation, recovery) and treatment.
80. The indications and contraindications to PR means prescription to children in orthopedic clinic.
81. The tasks and peculiarities of PR methodic in patients who have flat foot, scoliosis.

**The thematic module 5. The PR in neurology.**

**Theme 16. *The PR of central nervous system injuries and diseases.***

82. The indications and contraindications to PR means prescription to neurology diseases.
83. The tasks and peculiarities of PR methodic in patients with cerebral vascular accident (infarction, hemorrhage). Special exercises.
84. The tasks and peculiarities of PR methodic in patients with brain injuries.

**Theme 17. *The PR of peripheral nervous system injuries and diseases.***

85. The indications and contraindications to PR means prescription to patients with peripheral nervous system pathology and injuries.
86. The tasks and peculiarities of PR methodic in patients with facial neuritis. Special exercises.
87. The tasks and peculiarities of PR methodic in patients with radiculitis. Special exercises.
88. The tasks and peculiarities of PR methodic in patients with spine injuries.

**The thematic module 6. The PR in pediatric, obstetrics and gynecology.**

**Theme 18. *The peculiarities by pediatric PR The PR of sick children by different age.***

89. The peculiarities by pediatric PR The PR of sick children by different age.
90. The tasks and peculiarities of PR methodic in children with acute pneumonia.
91. The tasks and peculiarities of PR methodic in children with rachitis, hypotrophy.

**Theme 19. *The PR in obstetrics and gynecology.***

92. The tasks and peculiarities of PR methodic in woman at normal current of pregnancy.
93. The tasks and peculiarities of PR methodic during sorts and in the period after sorts.
94. The indications, contraindication and feature of techniques PC at gynecological practice.
95. The indications, contraindication and feature of techniques MPC at inflammatory diseases of female sexual bodies, and also at abnormal situations uterus.