



CD 8.5.1 DISCIPLINE CURRICULUM

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FACULTY OF MEDICINE II
STUDY PROGRAM 0912.1 MEDICINE
CHAIR OF MEDICAL REHABILITATION, PHYSICAL MEDICINE
AND MANUAL THERAPY

APPROVED

APPROVED

at the meeting of the Commission for Quality Assurance and Evaluation of the Curriculum II Faculty Medicine

Minutes No. ___ of _____

Chairman, dr.hab., univ.conf.

Suman Serghei _____
(signature)

at the Council meeting of the Faculty Medicine II

Minutes No. ___ of _____

Dean of Faculty, dr.hab.,univ.conf.

Bețiu Mircea _____
(signature)

APPROVED

at the meeting of the Department of Medical Rehabilitation, Physical Medicine
and Manual Therapy

Minutes no. 3 of 10.10.2017

Chief of the department, dr.hab.,univ.prof.

Pascal Oleg _____

SYLLABUS

DISCIPLINE MEDICAL REHABILITATION, PHYSICAL MEDICINE

Integrated studies

Type of course: **Compulsory**

Chisinau, 2017



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I. INTRODUCTION

General presentation of the discipline: the place and role of the discipline in the formation of the specific competences of the vocational / specialty training program.

"Medical Rehabilitation Physical Medicine" is the clinical and therapeutic discipline that establishes the functional diagnosis correlated with the clinical diagnosis of chronic diseases and the consequences of the traumas in children, adults and the elderly and treats through complex programs with physical paraclinical - physiotherapeutic, technical and physiological methods natural and preformants, socio-professional medical-educational methods - speech therapy, occupational therapy, alternatives and complementary medicine treatments, drug therapies specific to dysfunctional disease. Teaching discipline Medical rehabilitation Physical medicine for future physicians is necessary and indisputable, because disability in chronic diseases and trauma is a difficult medical and social-economic problem of the state. There is a importance in knowledge of disabling disabilities that affects the well-being, psychological and social well-being of the individual, in special for the general practitioner because it is the first to see the patient, and supervises the population with disabling pathologies. The application of knowledge depends on the correctness of the appropriate early and subsequent decision in medical management rehabilitating people with difficult health problems. Failure to recognize basic elements of High Disease Disabilities for general practitioners can have serious consequences for the patient, family, society.

For the proper acquisition of the discipline, thorough knowledge is required in the fields of Biology, Chemistry, Biochemistry, Physics, Biophysics, Functional Anatomy, Biomechanics, Pharmacology, Morphopathology, Physiology and Pathophysiology, in Therapeutic and Surgical Internal Medicine, Neurology and Neurosurgery, Orthopedics and Traumatology, Surgery, Pediatrics, Gerontology, etc., obtained during six years of study.

- The mission of the curriculum (purpose) in vocational training

One of the main objectives of the course is to demonstrate the place and role in the health system of "Medical Rehabilitation Physical Medicine" as a clinical and therapeutical specialty. The second objective is to recognize the medical rehabilitation as a complex medical, educational, social and other complex activity of persons with disabilities caused by various diseases, pathological conditions and trauma and place of this discipline in the health system, recognition of the WHO recommendations on the process of medical rehabilitation according to the International Classification of Functionality, Disability and Health (CIF-2005)

The third objective is to ensure the understanding of the medical role of the clinical and therapeutic principles of medical rehabilitation with methods of physical medicine of patients with dysfunctions and disabilities at different stages of treatment (hospital, ambulatory, medical or community specialized institutions, cabinets / rehabilitation, spa resorts, etc.).

Importantly, most of the therapeutic, surgical, congenital diseases most often can result in functional disabilities. The teaching of diseases within the discipline of medical rehabilitation and physical medicine is carried out according to the principle of academic medicine: from etiopathogenesis, to the detailed study, for each condition, of the specificity and degree of deterioration, dysfunction and infirmity which are the generic goals of rehabilitation approved by WHO

- Language (s) of the course: Romanian, Russian, English.



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II. MANAGEMENT OF THE DISCIPLINE

Code of discipline		S.11.O.110	
Name of the discipline		Medical Rehabilitation and Physical medicine	
Responsible for discipline		Pascal Oleg	
Year	VI	Semester	XI
Total hours including:			60
Course	10	Practical work	12
Seminars	13	Individual work	25
Evaluation form	CD	Number of credits	2

III. TRAINING AIMS WITHIN THE DISCIPLINE

At the end of the discipline study the student will be able to:

- **at the level of knowledge and understanding:**
 - recognize "Medical Physical Rehabilitation" as a clinical-therapeutical specialty, its place and role in the health system,
 - recognize medical rehabilitation as a complex medical, educational, social and other activity area of people with disabilities caused by various diseases, pathological conditions and traumas and the place of this discipline in the health system;
 - be familiar with the WHO recommendations on the organization of the medical rehabilitation process according to the International Classification of Functionality, Dissipability and Health (CIF-2005)
 - to know the principles and particularities of medical rehabilitation with methods of physical medicine of patients with dysfunctions and disabilities at different stages of treatment (hospital, ambulatory, specialized medical institutions or institutions, cabinets / wards / rehabilitation centers, spa resorts etc.);
 - Understand the methodology and particularities of assessing and evaluating the results of examinations and tests for correct diagnosis, clinical, functional and differential diagnosis, and organizing the rehabilitation process;
 - The indications and mode of therapeutic recovery and transfer of patients in specialized rehabilitation services;
 - to know the frequency, etiology and pathogenesis of therapeutic, surgical, congenital illnesses that most often cause functional disabilities;
 - to know contemporary methods of clinical, instrumental, functional laboratory evaluation of apparatus and systems, disability, ADL, quality of life, assessment and assessment of rehabilitation programs
 - to know the contemporary methods of complex treatment with means of basic physical medicine, special and help in chronic diseases, consequences of traumas with different degrees of disability;
 - to know the methods of prophylaxis of deterioration, disability and infirmity with means of physical medicine.
- **at the application level:**
 - carry out the correct collection and estimation of anamnesis data;



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- perform clinical examination, instrumental and functional assessments and correct assessment of patients with dysfunction, disability and disability in various diseases;
 - be able to establish a clinical-functional diagnosis for the initiation of the medical rehabilitation program;
 - to appreciate the functional recession, the degree of disability, the prognosis of medical and medical-social rehabilitation;
 - evaluate the effectiveness of the clinical and functional medical rehabilitation program
- ***at the integration level:***
- to appreciate the importance of disability due to illness and trauma in the context of medicine, public health, socio-economic situations, quality of life;
 - creatively address the problems of fundamental medicine and integrative medicine in health rehabilitation and physical medicine;
 - to deduce the interrelations between the medical rehabilitation physical medicine and other fundamental and clinical-therapeutic and paramedical disciplines;
 - to have the skills to implement and integrate the knowledge gained in the medical rehabilitation discipline of physical medicine with the fundamental and clinical-therapeutic disciplines;
 - be able to evaluate and self-assess the knowledge in the field;
 - be able to assimilate new achievements in the field of medical rehabilitation and physical medicine and integrate them with other medical and paramedical disciplines.

IV. PROVISIONAL TERMS AND CONDITIONS

"Medical Rehabilitation and Physical Medicine" is the clinical and therapeutic discipline that establishes the functional diagnosis correlated with the clinical diagnosis characteristic of chronic diseases and consequences of traumas in children, adults and the elderly and treats through complex programs with physical paraclinical methods – physo-therapeutic, technical and applications with the agents natural agents and preformants, sociop-rofessional medical and educational methods - speech therapy, occupational therapy, alternatives and complementary medicine treatments, drug-specific dysfunctional therapies.

Teaching discipline Medical rehabilitation Physical medicine for future physicians is necessary and indisputable, because disability and disability in chronic diseases and trauma is a difficult medical and social-economic problem of the state. The importance of knowledge of disabling disabilities that affects the well-being, psychological and social well-being of the individual is special for the general practitioner because it is the first to see the patient who supervises the population with disabling pathologies and his knowledge depends on the correctness of the appropriate early and subsequent decision in medical management rehabilitating people with difficult health problems. of the patient. Failure to recognize basic elements of High Disease Disabilities for general practitioners can have serious consequences for the patient, family, society.

For the proper acquisition of the discipline, thorough knowledge is required in the fields of Biology, Chemistry, Biochemistry, Physics, Biophysics, Functional Anatomy, Biomechanics, Pharmacology, Morphopathology, Physiology and Pathophysiology, in Therapeutic and Surgical Internal Medicine, Neurology and Neurosurgery, Orthopedics and Traumatology, Surgery, Pediatrics, Gerontology, etc., obtained during six years of study.



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V.THEMES AND ESTIMATE ALLOCATION OF HOURS

Lectures, practical hours/ laboratory hours/seminars and self-training

Nr. d/o	THEME	Number of hours		
		Lectures	Practical course	Individual work
1.	Medical Rehabilitation and Physical Medicine - defining the concept according to WHO-2005 Rehabilitation Model. Physician in Rehabilitation and his role in the rehabilitation team. Principles of medical rehabilitation Indications, contraindications. Classification of the physical-functional rehabilitation: kinesio-therapy, physiotherapy, occupational therapy, manual therapy, speech therapy, psychotherapy, etc. Principles of association of physical means in the medial rehabilitation program.	3		3
2.	Electrophysiotherapy. Definition. History. Physical and physiological bases of natural physical and performing factors. Indications, contraindications, complications, precautions. The characteristic of electrotherapy preformants, low, medium and high frequency currents, ultrasonotherapy. , magnetotherapy, laser-therapy, phototherapy, thermotherapy	3		3
3.	Physio-kinesio-therapy. Definition. Criteria for the classification of physiotherapy forms, techniques and methods. Mechanisms of action of physio-kinetotherapy. Biological and therapeutic effects, methodologies for application in physio-kinetotherapy. Organization of phisio-kinetotherapy programs. Patient evaluation. Functional tests, indications, contraindications, complications. Characteristics of kinesio-therapeutic forms and techniques: active, passive, anakinetic physio-kinesiotherapy	2		3
4.	Balneotherapy, definition. Mineral waters, therapeutic gases, peloids. Mechanisms of action, biological and therapeutic effects. Indications, contraindications. Medical climatology. Talasotherapy. Bioclimatology. Urban Climatopathology. Special microclimates - fauna (mountain, coniferous forests), caves and saline. Therapy with inhalations and aerosols. Principles of association and combination of physical factors. The role of physical factors in rehabilitation and disease prophylaxis	2		1
5.	Medical rehabilitation in locomotor diseases and traumas. Particularities of rehabilitation in adults, children and the elderly.		7	4
6.	Medical rehabilitation in diseases of the cardiovascular system. Complications. Particularities of rehabilitation in adults, children and the elderly.		6	4
7.	Medical rehabilitation in respiratory disorders. Particularities of rehabilitation in adults, children and the elderly.		6	3
8.	Medical rehabilitation in neurological disorders. Particularities of rehabilitation in adults, children and the elderly.		6	4
Total		10	25	25



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VI. REFERENCE OBJECTIVES OF CONTENT UNITS

Objectives	Content units
Chapter 1. The concept of Medical Rehabilitation and Physical Medicine. Methods of physical medicine	
<ul style="list-style-type: none"> - Define the "Medical Rehabilitation Physical Medicine" as a clinical-therapeutical specialty, its place and its role in the health system; - to be familiar with the medical rehabilitation as a complex medical, educational, social and other complex activity of persons with disabilities caused by various diseases, pathological conditions and traumas and the place of this discipline in the health system; - to know the principles and particularities of medical rehabilitation with methods of physical medicine of patients with dysfunctions and disabilities at different stages of treatment (hospital, outpatient, specialized medical or community institutions, cabinets / wards / rehabilitation centers, spa resorts) ; - to know the frequency, etiology and pathogenesis of therapeutic, surgical, congenital illnesses that most often cause functional disabilities, disability; - to be acquainted with the contemporary methods of complex treatment with means of basic physical medicine, special and aiding in chronic diseases, consequences of traumas resulting in various degrees of disability; - understand the methodology and particularities of assessing and evaluating the results of examinations and tests for correct diagnosis, clinical, functional and differential diagnosis, and organizing the rehabilitation process; 	<p>Medical rehabilitation-science and medical discipline in practical work. The rehabilitation team. Principles of rehabilitation. Indications, contraindications. Classification of physical-functional rehabilitation: physio-kinesiotherapy, physio-balneotherapy, occupational therapy, manual therapy, speech-therapy, psychotherapy. Principles of association of physical means in the recovery program.</p> <p>Electrotherapy. Characteristics of preformants in electrotherapy: low, medium and high frequency currents, ultrasound-therapy, magnetotherapy, laser-therapy, photo therapy, thermotherapy.</p> <p>Physio-kinesio-therapy. Criteria for classification of kinetic forms, techniques and methods. Mechanisms of action. of kinetotherapy. Biological and therapeutic effects, application methodologies. Organization of kinesio-therapy programs. Functional tests, indications, contraindications, complications. The characteristic of kinesio-therapeutic forms and techniques: active, passive, non-kinetic.</p> <p>Balneotherapy: mineral waters, therapeutic gases, peloids. Mechanisms of action, biological and therapeutic effects. Indications, contraindications. Medical climatology. Talasotherapy. Bioclimatology. Urban Climatopatology. Principles of association and combination of physical factors. The role of physical factors in rehabilitation and disease prophylaxis.</p>
Chapter 2. Special medical rehabilitation	
<ul style="list-style-type: none"> -To correctly assess the functional status of patients with cardiovascular, musculoskeletal, neurological, respiratory conditions; -organize functional rehabilitation programs with physical means in cardiovascular, musculoskeletal, neurological, respiratory diseases; - to know the methods of special kinesio-therapy: mechanical therapy, respiratory kinesio-therapy, in respiratory, cardiovascular, neurological, locomotor, diseases. -to know the methods of occupational therapy, , transfer methods, gestures, walking in / with orthopedic devices, prostheses in neurological and 	<p>Rehabilitation in cardiovascular diseases. Criteria for inclusion of patients in physiotherapy programs. Physical therapy in ischemic heart disease, acute myocardial infarction, hypertension, hypotension.</p> <p>Medical rehabilitation in respiratory diseases. Respiratory evaluation - clinical, somatoscopic, somatometric assessment. Questionnaire tests, evaluation scales of the pulmonary recovery program. Integration of respiratory patient assessment into medical recovery programs. Physio-therapy of obstructive and restrictive ventricular pathologies. Correction kinetotherapy</p>



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Objectives	Content units
locomotor diseases	and respiratory reeducation. Education of cough, speech. Occupational Therapy, Ergotherapy. Application of RM programs to non-rheumatic diseases: complicated cerebrovascular disease with cerebral ischemic / haemorrhagic stroke. Spastic / flare hemiparesis, para / tetraplegia or paresis. Discopathy (osteocondrosis, spondylosis, discartosis, etc.) complicated with vertebral, muscular, radicular, vascular, myeloptic, rheumalgia, myopathy, polyneuropathy syndromes. Clinical-physiological argumentation of physio-therapy applications in neurological and psychological pathologies. Particularities of the application of physio-balneoclimatotherapists in the treatment and rehabilitation of children and adolescents. Clinical-physiological argumentation of physio-balneo-climato-therapy applied in the treatment and rehabilitation of children and adolescents with cardiovascular, musculoskeletal, neurological, respiratory diseases.

VII. PROFESSIONAL (SPECIFIC (SC)) AND TRANSVERSAL (TC) COMPETENCES AND STUDY OUTCOMES

✓ **Professional (specific) (SC) competences**

- Understanding, assessing and using the concept of disability.
- Understanding international and European documents related to the concept of disability: ICF, WHO Classification of Functioning, Disability and Health, World Disability Report, CRPD, Convention on the Rights of Persons with Disabilities.
- Realise the domain of competence of MR specialty: central and peripheral neurological diseases, musculoskeletal, orthopedic, cancer, children, elderly. Conduct specific interventions and procedures of the RM, infiltrations, peripheral nervous blocks, physiokinotherapy, balneoclimatotherapy.

✓ **Transversal competences (TC)**

- Understanding the concept of multidisciplinary in the field of Medical Rehabilitation
- Case manager role.
- Understanding social and environmental aspects in assessing disability.
- Effective use of information sources and communication resources and assisted professional training (Internet portals, specialized database software applications, on-line courses, etc.) both in Romanian and in an international language.

✓ **Study outcomes**

- To understand the concept and principles of the Medical Rehabilitation specialty, the concept of Disability, ICF-WHO, according to the World Disability Report, the White Paper of the Specialty in Europe
- Apply the principles of the Medical Rehabilitation specialty in the areas of competence of the



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specialty.

- To know the peculiarities of the medical rehabilitation specialty in Republic of Moldova, the specifics of physiotherapy, balneology and kymetotherapy.
- Possess the methods of clinical, functional, neurophysiological evaluation, musculoskeletal, kinesiological echography, gait and balance assessment.
- Know the main interventions and specific procedure in Medical Rehabilitation.
- To know the management of Medical Rehabilitation in musculoskeletal disorders;
- To know the management of medical rehabilitation in central and peripheral nervous system disorders.
- To know the principles and management of Medical Rehabilitation under other degenerative conditions of disability: in children, elderly, cardio-pulmonary, bone and joint diseases.

VIII. STUDENT'S SELF-TRAINING

No.	Expected product	Implementation strategies	Assessment criteria	Implementation terms
1.	Working with information sources	Study the lecture or the material in the manual to the topic carefully. Selection of thematic questions that require reflection on the subject. To get acquainted with the list of additional information sources on the topic. Select the source of additional information for that theme. Wording of generalizations and conclusions regarding the importance of the subject.	Ability to extract the essentials; interpretative skills; the volume of work	Throughout the module
2.	Working with electronic information sources	Study of electronic material on the subject. Selecting information.	Ability to extract the essentials; the volume of work	Throughout the module
3.	Preparing and supporting presentations	Selection of the theme of the presentation, setting the terms of realization. Establishing the PowerPoint presentation components - topicality, practical applications, bibliography. Fellow reviews. Professor Review.	The volume of work, the degree of penetration in the essence of presentation, elements of creativity, personal attitude formation, coherence of exposure and scientific correctness, graphic presentation, presentation method.	Throughout the module

IX. METHODOLOGICAL SUGGESTIONS FOR TEACHING-LEARNING-ASSESSMENT

- **Teaching and learning methods used**

The discipline of Medical Rehabilitation and Physical Medicine is taught in classical manners:



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with lectures and practical works. At the lectures, the theoretical course will be read by the course holders. In practical seminars and lessons, students will study concrete clinical examples demonstrating the role of the rehabilitating physician examining, testing, evolving and appreciating the patient in order to establish functional diagnosis, rehabilitation program, selection of functional physical rehabilitation means - kineto-physio-balneotherapy, massage, occupational therapy, manual, associated or combined treatment methods, the determination of specialized treatment, the prevention of physical-functional deconditioning, the installation of immobilization syndromes, the psycho-emotional disorders, the reduction of the risks of the installation of severe disability, the vicious compensation and the medical conduct aimed at increasing the potential for activity and participation of the patient. In the clinic the students attend the morning conferences of the doctors, the weekly visits, the presentation and discussion of the serious patients and the patients presented for surgical interventions; attends clinical scientific conferences, curative, anatomo-pathological control conferences, and cleanses patients under the supervision of the teacher; participates in the investigation of the patients, visits of the professor, the lecturers and the heads of the department. The teaching of the Medical Rehabilitation and Physical Medicine discipline uses different didactic methods, oriented towards the efficient acquisition and achieving the objectives of the didactic process. In the theoretical lessons, along with traditional methods (lesson-exposure, lesson-conversation, synthesis lesson), modern methods (lesson-debate, lesson-conference) are also used. Forms of individual activity are used in the practical works. In order to acquire deeper material, different semiotic systems (scientific language, graphical and computerized language) and teaching materials (tables, schemes, micrographs, radiographs) are used. Inside lessons and extracurricular activities are used Communication Technologies - PowerPoint presentations.

- **Applied teaching strategies / technologies** (specific to the discipline)
"Clinical case study"; "Group Interview," "Clinical Conference"
- **Methods of assessment** (including the method of final mark calculation)

Current: front and / or individual control via

- analysis of case studies
- control work
- PowerPoint presentation

Final: Diferred colloquium

Method of mark rounding at different assessment stages

Intermediate marks scale (annual average, marks from the examination stages)	National Assessment System	ECTS Equivalent
1,00-3,00	2	F
3,01-4,99	4	FX
5,00	5	E
5,01-5,50	5,5	
5,51-6,0	6	
6,01-6,50	6,5	D
6,51-7,00	7	
7,01-7,50	7,5	C
7,51-8,00	8	
8,01-8,50	8,5	
8,51-8,00	9	B
9,01-9,50	9,5	A
9,51-10,0	10	



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The average annual mark and the marks of all stages of final examination (computer assisted, test, oral) - are expressed in numbers according to the mark scale (according to the table), and the final mark obtained is expressed in number with two decimals, which is transferred to student's record-book.

Absence on examination without good reason is recorded as "absent" and is equivalent to 0 (zero). The student has the right to have two re-examinations.

X.RECOMMENDED LITERATURE:

A. Compulsory:

1. Randall L. Braddom. Physical Medicine and Rehabilitation . Elsevier 2005 4th edition
2. WHITE BOOK ON PHYSICAL AND REHABILITATION MEDICINE IN EUROPE
Produced by the Section of Physical and Rehabilitation Medicine, Union Européenne des Médecins Spécialistes (UEMS), European Board of Physical and Rehabilitation Medicine. 2006

B. Additional

1. Iaroslav Kiss. Fiziokinetoterapia și Recuperarea medicală. București, 2012
2. Tudor Zbenghe. Kineziologie. Știința mișcării. București, 2008
3. Aurel Saulea. Fiziobalneoterapia generală. Chișinău, 1996