SUBJECT OUTLINE

1. Programme of study description

1.1.	**THE "CAROL DAVILA" UNIVERSITY OF MEDICINE AND PHARMACY**
1.2.	**THE FACULTY OF MEDICINE / THE CLINICAL DEPARTMENT 9**
1.3.	**DISCIPLINE: REHABILITATION MEDICINE**
1.4.	**DOMAIN OF STUDY: Healthcare – regulated sector within the EU**
1.5.	**CYCLE OF STUDIES: BACHELOR'S DEGREE**
1.6.	**PROGRAMME OF STUDY: MEDICINE**

2. Subject description

2.1.	**Name of the subject/compulsory subject/elective subject within the discipline:Rehabilitation medicine sna balneoclimatology**						
2.2.	**Location of the discipline:**						
2.3.	**Course tenured coordinator:**						
2.4.	**Practicals/clinical rotations tenured coordinator:**						
2.5. Year of study	VI	**2.6. Semester**	XI,XII	**2.7. Type of assessment**	Exam	**2.8. Subject classification**	compulsory

3. Total estimated time (hours/semester of didactic activity) – teaching module

Number of hours per week	4	**Out of which: course**	2	**Clinical rotation**	2
Total number of hours from curriculum	28	**Out of which: course**	**14**	**Clinical rotation**	14
Distribution of allotted time					**Hours**
Study from textbooks, courses, bibliography, and student notes					
Additional library study, study on specialized online platforms and field study					
Preparing seminars / laboratories, assignments, reports, portfolios and essays					
Tutoring					
Examinations					
Other activities					
Total hours of individual study					
Number of credit points					2

4. Prerequisites (where applicable)

4.1. of curriculum	Basic knowledge's of locomotor anatomy. Basic knowledge's from clinics: internal medicine, rheumatology, orthopedy,, neurology, neurosurgery, pediatrics, geriatrics
4.2. of competencies	Abilities, techniques and assessment for general clinical examination

5. Requirements (where applicable)

5.1. for delivering the course	Video projector, laptop, flipchart, magnetic board,
5.2. for delivering the clinical rotation	INRMFB, IIIrd Clinic of Rehabilitation

6. Acquired specific competencies

Professional competencies (expressed through knowledge and skills)	To understand specific elements related to rehabilitation taxonomy (dysfunction/impairment, functional level,

	disability) To evaluate in practice different types of locomotor functional impairments (trough muscles and joints testing, assessment of specific gestures in individual activities of daily living, maintaining functional in terms of social and professional participation). To understand the importance, role and application of the International Classification of Functioning, Disability and Health (ICF) in the main dysfunctional pathology, traumatic and orthopedic, rheumatological, endocrine-metabolic, etc.) To know and recognize different physical therapy modalities used in rehabilitation programmes; to know and follow recommendations/indications, limits and contradictions of physical therapy. To know different form of spa(balnear) therapy, the place, indications, limits and contraindications of balneoclimatology for different locomotive pathologies. To identify different types of somatic pain syndromes, to know and apply pain assessment questionnares. To know and use in the therapeutical programme the rehabilitation goals according to the presented case studies. To acquire muscular and joint testing, clinical and functional assessment of kinematic chains, pinch and grins assessment and the evaluation of various upper limb activities, evaluation of verticalit/orthostatic, posture and the assessment of normal and pathological gait.
Transversal competencies (of role, of professional and personal development)	To understand the role of rehabilitation in patients with complex disabilities and with the need of interdisciplinary medical team (neurologist, neurosurgeon, geriatric specialist, rheumatologist, rehabilitation specialist, family doctor). To understand the position and collaboration between the members of rehabilitations team (physical therapist, nurse, occupational therapist, psychologist, logoped , social assistant).

7. Subject learning objectives (based on the scale of acquired specific competencies)

7.1. General learning objective	To understand the motivation of clinical and functional assessment in Rehabilitation and the application of specific rehabilitation programmes for increasing functional level and functional independence (individual, social and professional level).
7.2. Specific learning objectives	At the completion of this course students have to: -identify different categories of somatic dysfunctional phatologies, disabilities, according to International Classification of Functioning, Disability and Health(ICF).

8. Content

8.1. Course	Teaching methods	Observations
1 Course Rehabilitation Medicine (Physical Medicine and Rehabilitation) Definition, aim/goals The classification, dimensions and particularities of the specialty: from prophylaxis/prevention to rehabilitation (functional improvement) Objectives and outcomes of rehabilitation in connection with body structures and functions, activities and participation Quality of life and bioethical considerations/issue sand rehabilitation. Present and future/perspectives in Rehabilitation Medicine: Robotics, Virtual Reality, Research in Rehabilitation	Multimedia tools, PowerPoint presentations, didactic videos, interactive means	
2 Diagnostic and evaluation/assessment in Rehabilitation Medicine Features of clinical and functional evaluation, significance of functional impairment The International Classification of Functioning, Disability and Health (ICF) Evaluation/ assessment methods and tools in Rehabilitation:test, analytical scales for clinical and functional assessment, global functional scales, functional capacity evaluation (effort training assessment) Pain in Rehabilitation Medicine Biological and para clinical/ laboratory tests in Rehabilitation (eg. Blood and urine test, EKG, spirometry, assessment of endurance, imaging techniques/X ray exam, soft tissue ultrasound (sonography), thermography, EMG)	Multimedia tools, PowerPoint presentations, didactic videos, interactive means	
3 Specific Therapeutic modalities in Rehabilitation Medicine Physical Therapy: definition, classification Physical Therapy methodologies: Electrotherapy, Thermotherapy and Hydro-thermotherapy, Therapeutical	Multimedia tools, PowerPoint presentations, didactic videos, interactive means	

massage, Kinetotherapy Indication/recommendations, contraindications, limits of therapeutical application of physical therapy procedures and metodologies.		
4 Specific therapeutical modalities in Rehabilitation Medicine (II) Kinetotherapy definition, classification, application methods, indications, contraindications and limits of therapeutical application Kinetic prophylaxis: primary, secondary program Ocupational therapy: definition, classification, application methods, indications, contraindications and limits of therapeutical application Orthotics and prosthetics in Rehabilitation: definition, classification, application methods, indications, contraindications	Multimedia tools, PowerPoint presentations, didactic videos, interactive means	
5 Balneoclimatotherapy (spa and climatic therapy): prophylactic, curative and rehabilitative Classification of natural therapeutic factors (NTF) Climatic therapy in prophylaxis and general pathology: definition, classification, application methods, indications, contraindications Therapeutic mineral waters: definition, classification, application methods, indications, contraindications Mud therapy (therapeutic muds / moorpacking): definition, classification, application methods, indications, contraindications Natural Therapeutical Gas (mofettes/sulfur) definition, classification, application methods, indications, contraindications Speleotherapy: definition, classification, application methods, indications, contraindications	Multimedia tools, PowerPoint presentations, didactic videos, interactive means	
6 Rehabilitation Medicine in neurological disorders/pathology: Peripheral Neuropathies, Peripheral (lower) Motor Neuron Syndrome:	Multimedia tools, PowerPoint presentations, didactic videos, interactive means	

Clinical and functional assessment, specific evaluation test Specific goals of rehabilitation in radial nerve palsy/paralysis, carpal tunnel syndrome, brachial plexus palsy, sciatic nerve palsy, intern/extern sciatic nerve palsy, application methods, therapeutical indications and contraindications Neuropathic pain in rehabilitation Central (upper) Motor Neuron Syndrome: clinical and functional assessment, specific tests and scales, for clinical and functional assessment, laboratory test Specific objectives/goals and application methods rehabilitation programmes for stroke, Parkinson disease, multiple sclerosis and muscular dystrophy Lumbar disc pathology: clinical and functional assessment, complex therapeutical programmes in rehabilitation		
7 Rehabilitation Medicine in traumatic and orthopedic pathology: -clinical and functional evaluation of the posttraumatic sequels/impairments -deconditioning syndrome -specific objectives and application methods in posttraumatic rehabilitation (joint, soft tissue/periarticular, nerve and vascular and complex impairments - clinical and functional picture specific objectives and application methods in rehabilitation programmes after vertebral and spinal cord trauma and head trauma/injury (paraplegia and tetraplegia). Rehabilitation Medicine in cardiovascular and respiratory pathology: -clinical and functional assessment in patients with coronary disease, hypertension, peripheral vascular pathology (arteriopathy, varicose states, lymphatic oedema) -clinical and functional assessment	Multimedia tools, PowerPoint presentations, didactic videos, interactive means	

in patients with respiratory pathology and restrictive or obstructive dysfunction/impairment -specific goals and application methods in rehabilitation cardiovascular and respiratory pathology, value of effort training in rehabilitation programmes Rehabilitation Medicine and pediatric pathology: scoliosis, CP, posttraumatic sequels Rehabilitation Medicine and geriatric pathology: deconditioning syndrome in the elderly, in normal and pathologic conditions.		

8.2. Clinical rotation	**Teaching methods**	**Observations**
CR 1 Clinical and functional examination of the patient in rehabilitation medicine Features of history taking Articular testing in normal pathological biomechanical conditions; significance for posttraumatic and neurological psychology Effort assessment, visual analogue scale, pain-dysfunction Analysis and case studies Practical applications of analgesic electrotherapy	Demonstration of systematic clinical and functional assessment of patients for rehabilitation programs	2
CR 2 Clinical and functional assessment of upper limb: Specific clinical and functional assessment test, the significance of upper limb kinematic chain Biomechanical analysis of hand wrist-fingers joint complex and pinch and grip deficits/dysfunction Analysis and case studies: painful shoulder and elbow in neurological, posttraumatic and rheumatic pathology Practical applications of thermal therapy	Demonstration of systematic clinical and functional assessment of patients for rehabilitation programs focused on upper limb	2
CR 3 Clinical and functional assessment of upper limb: Biomechanical and functional features of lower limb kinematic chain-normal and pathological gait	Demonstration of systematic clinical and functional assessment of patients for rehabilitation programs focused on upper limb	

Case study and clinical and functional assessment in posttraumatic neurological and rheumatic pathology of the hip, knee and foot-ankle complex Practical applications of kinetic therapy programmes for upper and lower limb pathology		
CR 4 Clinical and functional assessment of spine Biomechanical unit of the spine: normal and pathological curves Cervical and lombar disc pathology: clinical and functional assessment of the patients with cervicalgy or lombalgy and disc herniation; diagnostic issues; application of rehabilitation programmes Therapeutic exercises (kinetic therapy) for cervical/lombar pain syndrome (low back pain)	Demonstration of systematic clinical and functional assessment of patients for rehabilitation programs focused on spine	
CR 5 Rehabilitation programs specific application for peripheral neuropathies: radial nerve palsy/paralysis; carpal tunnel syndrome; brachial plexus palsy; sciatic nerve palsy Specific application of rehabilitation programs for central type neurological diseases or specific severe neurological diseases: stroke, Parkinson disease, multiple sclerosis, neuropathic pain The assessment of pinch and grip deficits and of the neurological gait Electrical stimulation for normal innervated and denervated muscles, bio-feed back.	Demonstration of systematic clinical and functional assessment of patients for rehabilitation programs focused on peripheral neuropathies	
CR 6 Specific application of rehabilitation programs in posttraumatic, orthopedic and surgical sequels-case studies Clinical and functional assessment in posttraumatic, orthopedic sequels and specific rehabilitation programs Rehabilitation in amputees Clinical and functional assessment, specific goals and application methods in Rehabilitation programs in patients with spinal cord injuries (SCI) and brain injuries (paraplegia	Demonstration of systematic clinical and functional assessment of patients for rehabilitation programs in rheumatology, cardio-respiratory diseases and geriatrics	2

and tetraplegia) Practical applications of therapeutical massage and kinetic therapy.		
CR 7 Specific application of rehabilitation in rheumatic pathology: case studies Clinical and functional assessment specific goals and application methods for inflammatory rheumatic pathologies: rheumatoid polyarthritis and ankylosing spondylitis Clinical and functional evaluation specific goals and application methods in Rehabilitation for degenerative rheumatic pathologies: coxarthrosis and gonarthrosis (after surgery or nonsurgical), scapular and humeral periarthritis, other rheumatic degenerative articular and periarticular manifestations Practical applications of orthotics in physical therapy Specific application of rehabilitation in amputees – features of rehabilitation in cardiovascular pathology, geriatrics, paediatry -case studies Patient education issues related to maintenance and prophylaxis of the locomotor system Final evaluation with clinically application for the practical examination		
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Bibliography for course and clinical rotation

1 "***Rehabilitation, Physical Medicine and Balneology***" Nica A.S. (Discipline course). Editura Universitara "Carol Davila", 2017;
2 "***Recuperare Medicala****"* Nica A.S. Editura Universitara Carol Davila, 2004;
3 *"**Recuperare, Medicina Fizica si Balneoclimatologie-Notiuni de Baza si Actualitati***, vol. 1, Gelu Onose, Editura Medicala, Bucuresti 2007;
4 "***Compendiu de Neuroabilitare – la adulti, copii si varstnici***" Editori coordonatori: Gelu Onose, Liliana Padure, Editura Universitara "Carol Davila", 2008;
5 "***Spondilartropatiile***"- Gelu Onose(autor principal), Livia Stanescu-Rautzoiu, Valer Mihai-Pompilian, Editura Academiei Romane, Bucuresti 2007;
6 "***Cartea alba a specialitatii de medicina si fizica si de reabilitare in Europa produsa de sectiune de medicina si fizica si de reabilitare in UE a medicilor specialisti (UEMS) in colaborare cu Academia Europeana de Reabilitare medicala si Societatea Europeana de Medicina Fizica si de Reabilitare"*** Bardot **A.,** Bensossan L., Berteanu M. si col. Ed. Universitara "Carol Davila", 2006;
7 "***Physical Medicine & Reabilitation***" (third edition), Braddom R., Buschbeher R.M., Ed. W.B.

Saunderes Company, Philadelphia SUA 2007; traducere in lb. Romana – 2014;
8 "***Reabilitation Medicine"*** De Lisa A. (IV-th edition) Lippincot Raven Publisher – 2010;
9 "***Afectiunile degenerative ale coloanei vertebrale – Clinica, diagnosticul si tratamentul derecuperare",*** Lucescu V. Constanta, Ed. Dobrogea, 2009;
10 "*Fiziokinetoterapia si recuperarea medicala"* Iaroslav Kiss, Ed. Medicala, 2002.

9. Corroboration of the subject content with the expectations of the representatives of the epistemic community, professional associations, and major employers in the field of the programme of study

10. Assessment

Type of activity	**Assessment criteria**	**Assessment methods**	**Assessment weighting within the final grade**
Course		Multiple choice	70%
Clinical rotation		**Clinic demonstration**	30%
Minimum performance standard			
6 grade			

Date of filing **Signature of the course tenured coordinator** **Signature of the seminar tenured coordinator**

Date of approval in the Council of the Department: **Signature of the Head of the Department**