



Bachelor's Degree in Physiotherapy

Academic plan

FIRST YEAR			
Subjects	Descripción	Workload	Credits (ECTS)
HUMAN ANATOMY I	- Introduction to anatomy - Anatomy of the trunk: vertebral column, thorax, abdomen, pelvis, and perineum. Bones, joints, muscles, vascularization, and innervation - Upper limb: bones, joints, muscles, vascularization, and innervation - Lower limb: bones, joints, muscles, vascularization, and innervation - Anatomy of the neck and head: bones, joints, muscles, vascularization, and innervation	Directed: 60 h Antonomous: 90 h Total hours: 150 h	Theory: 5 Practicie 1
HUMAN PHYSIOLOGY I	- General physiology - Hematology - Nervous system - Renal system - Digestive system - Endocrine system	Directed: 60 h Antonomous: 90 h Total hours: 150 h	Theory: 6
BIOLOGY	BIOCHEMISTRY - Structure of amino acids and proteins. Major proteins of plasma, blood, and connective tissue - Enzymes and coenzymes. Bioenergetics - Functional organization of metabolism: thermodynamic basis of energy exchange - Carbohydrate metabolism and inter-organ and inter-tissue exchange - Mitochondrial respiration and associated processes - Glycogen synthesis and degradation, glycolysis, and gluconeogenesis - Lipid metabolism and inter-organ and inter-tissue exchange. Lipogenesis and fatty acid β-oxidation, esterification, and lipolysis - Amino acid metabolism: general pathways of degradation, oxidation, and nitrogen elimination CELL BIOLOGY	Directed: 60 h Antonomous: 90 h Total hours: 150 h	Theory: 6



	- Cytology: General structure of the cell. Plasma membrane. Cytoplasm and cytoskeleton. Endomembrane system. Mitochondria. Nucleus. Cell cycle, senescence, and cell death - Histology: Concept of tissue. Epithelial tissue. Connective tissue. Muscle tissue. Nervous tissue - Organography: Peripheral nervous system. Musculoskeletal system. Circulatory system. Respiratory system. Skin and appendages		
FOUNDATIONS OF PHYSIOTHERAPY	- The Discipline of Physiotherapy and the Physiotherapist as a Professional - History of the Health Sciences and Their Approaches to Physiotherapy from Their Origins to the Middle Ages - History of the Health Sciences and Their Approaches to Physiotherapy from the Early Middle Ages to the 18th Century - History of the Health Sciences and Their Approaches to Physiotherapy during the 19th Century - History of the Health Sciences and Their Approaches to Physiotherapy during the 20th Century: Establishment of the Discipline and the Physiotherapy Profession - The Spanish Healthcare System and the Physiotherapy Profession in Spain: Establishment and Development. Physiotherapy as a Degree within the European Higher Education Area. Physiotherapy Care in Spain - The Physiotherapy Intervention Process - The International Classification of Functioning, Disability and Health (ICF): Concept, Terminology, Structure, and Its Use by Health Professionals	Directed: 28 h Autonomous: 47 h Total hours: 75 h	Theory: 3
PHYSIOTHERAPY ASSESSMENT I	- Concept of Physiotherapy Assessment - Clinical Interview (Biopsychosocial Perspective) - Physical and Functional Examination - Specific Diagnostic Tests - Clinical Reasoning	Directed: 60 h Autonomous: 90 h Total hours: 150 h	Theory: 6
HUMAN ANATOMY II	- Cardiovascular System - Respiratory System - Digestive System - Genitourinary System - Nervous System	Directed: 60 h Autonomous: 90 h Total hours: 150 h	Theory: 4 Practice 2
HUMAN PHYSIOLOGY II AND ADAPTIVE RESPONSE TO EXERCISE	- Muscle Physiology: Neuromuscular Control of Movement - Energy Sources for Movement - Cardiovascular System - Respiratory System - Functional Assessment	Directed: 60 h Autonomous: 90 h Total hours: 150 h	Theory: 6
PATHOPHYSIOLOGY	- General Concepts: Health and Disease. Terminology - External Etiological Agents as Causes of Disease: Environmental Factors, Toxins, Microorganisms	Directed: 60 h Autonomous: 90 h Total hours: 150 h	Theory: 6



	- Endogenous Factors as Causes of Disease. Genetic Disorders - Cellular Responses to Injury: Cell Damage and Mechanisms of Injury - Non-specific Responses to Injury: Local Response—Inflammation and Repair - Non-specific Responses to Injury: General Response—Fever and Systemic Reaction. General Adaptation Syndrome to Stress - The Immune Response as a Cause of Disease: Immunodeficiency and Hypersensitivity Syndromes. Tolerance and Autoimmunity. Transplant Pathophysiology - Pathophysiology of Neoplasms: Oncogenes and Tumor Suppressor Genes. Alterations in Cell Proliferation and Death - Genomic Instability: Growth, Invasion, and Metastasis. Clinical Manifestations of Cancer - Pathophysiology of Aging - Pathophysiology of Swallowing: Dysphagia and Odynophagia. Intestinal Microbiome - Disorders of Intestinal Motility - Pathophysiology of Digestion and Absorption: Liver and Pancreas - Elementary Lesions: Dermatoses, Ulcers, Burns - Pathophysiology of Ventilation: Ventilatory Syndromes - Pathophysiology of Gas Exchange: Respiratory Failure - Pathophysiology of Pulmonary Circulation - Semiotics and Examination of the Respiratory System - Syndromes of Pulmonary Pathology - Pathophysiology of Cardiac Valves, Myocardium, and Pericardium - Pathophysiology of Cardiac Rhythm Disorders - Arteriosclerosis and Atherosclerosis: Pathophysiology of Coronary Circulation and Blood Pressure - Acute and Chronic Circulatory Failure - Pathophysiology of Peripheral Circulation and the Lymphatic System - Semiotics and Examination of the Cardiovascular System - Pathophysiology of Higher Cortical Functions and the Central Nervous System - Pathophysiology of Voluntary Motor Function: Upper and Lower Motor Neuron Syndromes - Pathophysiology of Sensation: Specific Study of Pain - Pathophysiology of the Cerebellum - Pathophysiology of the Extrapyrimal System - Pathophysiology of the Brainstem and Spinal Cord - Pathophysiology of the Peripheral Nervous System, Cranial Nerves, and Autonomic Nervous System - Pathophysiology of Consciousness: Coma - Pathophysiology of Cerebrospinal Fluid and Meninges: Intracranial Hypertension		
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	- Pathophysiology of the Neuromuscular Junction and Striated Muscle - Pathophysiology of the Hypothalamic–Pituitary Axis and the Thyroid Gland - Pathophysiology of the Adrenal Glands and Gonads - Pathophysiology of Carbohydrate, Lipid, and Protein Metabolism. Fluid and Electrolyte Balance. Nutrition - Pathophysiology of the Parathyroid Glands and Calcium, Phosphorus, and Magnesium Metabolism. Trace Elements and Vitamins - Clinical Manifestations of Renal Disease: Acute and Chronic Renal Failure - Glomerular, Tubular, Tubulointerstitial, and Renal Vascular Pathology - Pathophysiology of the Urinary Tract - Pathophysiology of Red and White Blood Cell Lines. Hemostasis - Pathophysiology of Bone Tissue: Bone Modeling and Remodeling. Osteoporosis and Osteomalacia - Pathophysiology of Joints and Soft Tissues		
PHYSICS	- Fundamentals of Mechanics: Vector Calculus Applied to Forces; Principles of Kinematics and Dynamics; Levers - Waves and Radiation: Electromagnetic Waves; Radiation Spectrum; Infrared, Ultraviolet, Radar, and Microwaves - Ultrasound - Laser - Electromagnetism: Alternating Current; Direct Current; Types, Effects, and Safety in Their Use. Electric Current for Diathermy. Charge Delivered by an Electrical Pulse - Fluids: Hydrostatics	Directed: 50 h Antonomous: 100 h Total hours: 150 h	Theory: 6
PROCEDURES IN PHYSIOTHERAPY I	- Hydrotherapy, Balneotherapy, Thalassotherapy, Peloid Therapy - Massage Therapy, Manual Lymphatic Drainage, and Functional Bandaging - Physical Agents - Manual Intervention Procedures: Massage Therapy and Manual Lymphatic Drainage	Directed: 90 h Antonomous: 135 h Total hours: 225 h	Theory: 7 Practice 2
SECOND YEAR			
Subjects	Descripción	Workload	Credits (ECTS)
BIOMECHANICS OF THE LOCOMOTOR SYSTEM	- Introduction to Biomechanics - Biomechanics of the Musculoskeletal Tissues - Biomechanics of the Upper Limb - Biomechanics of the Spine - Biomechanics of the Lower Limb - Biomechanics of Kinetic Chains: Posture, Gait, Running, Cycling, and Swimming	Directed: 60 h Antonomous: 90 h Total hours: 150 h	Theory: 6



PSYCHOLOGY	GENERAL CONCEPTUALIZATION - Myths and Misconceptions about Human Behavior - Main Conceptual Perspectives in Psychology - Neuroscience and Behavior BASIC PSYCHOLOGICAL PROCESSES - Attention and Perception - Emotion - Anxiety and Stress - Anger, Impulsivity, Sadness, and Depression - Conceptualization and Prevention of Suicide - The Grieving Process in the Face of Loss - Positive Emotions, Well-being, and Health - Motivation - Learning - Memory - States of Consciousness - Personality - Biopsychosocial Perspective on Pain - Psychological Aspects that Contribute to the - Chronicity of Pain and Disability	Directed: 51 h Antonomous: 99 h Total hours: 150 h	Theory: 6
MUSCULOSKELETAL CONDITIONS	- Amputations and rheumatic conditions - Spinal and temporomandibular joint (TMJ) disorders - Upper limb disorders: elbow and forearm, hand and wrist - Lower limb disorders: pelvis and hip, knee and foot.	Directed: 60 h Antonomous: 90 h Total hours: 150 h	Theory: 5 Practicie 1
PROCEDURES IN PHYSIOTHERAPY II	- Introduction to electrotherapy. General information, instrumentation, biological effects, indications, and contraindications. Safety and protection in electrotherapy. - Diadynamic currents. - Träbert currents. - TENS. - Interferential currents. - I/t and A/t curves. - Faradization and electrostimulation. - Direct current: galvanic current. Iontophoresis. - Electrolysis. - Microcurrents. - High voltage. - Neuromuscular taping, kinesiotape.	Directed: 30 h Antonomous: 45 h Total hours: 75 h	Theory: 3
KINESITHERAPY	- General principles of kinesiotherapy. - Active and resisted kinesiotherapy. - Therapeutic exercise I. - Therapeutic exercise II. - Proprioception. - Ergonomics and transfers.	Directed: 60 h Antonomous: 90 h Total hours: 150 h	Theory: 5 Practicie 1
SCIENTIFIC BASIS IN PHYSIOTHERAPY	- Information Systems - Information and Communication Technology - Statistics -Scientific Foundations of Physiotherapy	Directed: 60 h Antonomous: 90 h Total hours: 150 h	Theory: 5 Practicie 1



METHODS OF MUSCULOSKELETAL PHYSIOTHERAPY I	- Manual therapy and therapeutic exercise. - Musculoskeletal assessment - Muscle and joint chains (GDS) - Assessment and manual therapy of the ankle-foot, hip, knee, shoulder-elbow, and wrist-hand. - Soft tissue treatment of the shoulder, elbow, wrist, hand, cervical, thoracic, and lumbopelvic regions, hip, knee, ankle, and foot. - Therapeutic exercise practice: Motor Control I and II, stretching, and flexibility testing.	Directed: 90 h Autonomous: 135 h Total hours: 225 h	Theory: 6 Practice 3
PHARMACOLOGY AND HEALTH PRODUCTS	- General principles of drug action. - Pharmacology of the Autonomic Nervous System (ANS) and Peripheral Nervous System. - Pharmacology of the Cardiovascular System. - Pharmacology of the Central Nervous System (CNS). - Autacoids. Pharmacology of inflammation. - Pharmacology of the Endocrine System. - Pharmacology of the Respiratory System. - Drugs of the Digestive System. - Pharmacology with Action on the Blood. - Miscellaneous.	Directed: 57 h Autonomous: 93 h Total hours: 150 h	Theory: 6
MUSCULOSKELETAL PHYSIOTHERAPY	- Introduction to musculoskeletal physiotherapy - Physiotherapy treatment for musculoskeletal conditions of the lower extremity - Physiotherapy treatment for musculoskeletal conditions of the upper extremity - Physiotherapy treatment for musculoskeletal conditions of the spine and craniomandibular region	Directed: 60 h Autonomous: 90 h Total hours: 150 h	Theory: 5 Practice 1
LEGISLATION, ETHICS AND MANAGEMENT IN PHYSIOTHERAPY	- Physiotherapy in Primary Care, Specialized Care, and Occupational Health - Conceptual, legal, and territorial framework of the physiotherapist in the Healthcare System; Management of health services and physiotherapy units; Quality mechanisms in physiotherapy practice - Ethical, deontological, and legal foundations of the profession	Directed: 60 h Autonomous: 90 h Total hours: 150 h	Theory: 6
THIRD YEAR			
Subjects	Descripción	Workload	Credits (ECTS)
CARDIORESPIRATORY AND NEUROLOGICAL CONDITIONS	- Respiratory conditions - Cardiovascular conditions - Central nervous system conditions - Peripheral nervous system conditions	Directed: 60 h Autonomous: 90 h Total hours: 150 h	Theory: 6
NEUROLOGICAL PHYSIOTHERAPY	- Neuroplasticity - Neurophysiological basis of motor control - Neurological impairment and motor control - Neurological assessment - Neuropsychological assessment	Directed: 55 h Autonomous: 95 h Total hours: 150 h	Theory: 4 Practice 2



	- Functional assessment - Assessment of speech and language disorders - Swallowing difficulties in neurological patients - New methods for assessing balance, postural control, and gait - Pain management in neurological conditions - Addressing muscle tone disorders - Functional rehabilitation of the upper limbs and trunk - Functional rehabilitation of the lower limbs - Physical activity and exercise in neurorehabilitation - Nutrition and neurology - Clinical practice guidelines		
CARDIORESPIRATORY PHYSIOTHERAPY AND IN SPECIAL SITUATIONS	- General principles of ergometric assessment. - Aerobic-anaerobic transition. - Physiotherapy for limb ischemia. - Physiotherapy for deep vein thrombosis. - Physiotherapy for chronic venous insufficiency. - Physiotherapy for lymphedema. - Physiotherapy for adult amputee patients. - Postpartum physiotherapy. - Treatment techniques for patients with pelvic floor dysfunction. - Instrumental techniques in respiratory physiotherapy. - Pulmonary auscultation: Analysis of respiratory sounds.	Directed: 30 h Autonomous: 45 h Total hours: 75 h	Theory: 3
METHODS OF CARDIORESPIRATORY PHYSIOTHERAPY AND IN SPECIAL SITUATIONS	- Clinical Examination and Assessment of the Respiratory System. Medical History, Cough, Expectoration, Physical Examination of the Chest: Palpation and Percussion. - Introduction to Respiratory Physiotherapy. Physiology of the Cardiorespiratory System. Ventilatory Mechanics. Physical Properties of the Lung. - Approach to Respiratory Physiotherapy. Respiratory physiotherapy techniques in adults. Respiratory physiotherapy techniques in pediatrics. - Exercise Programs in Special Populations. Principles of exercise prescription in heart disease (cardiac rehabilitation). Therapeutic exercise for cancer patients. Therapeutic exercise for diabetic patients.	Directed: 30 h Autonomous: 45 h Total hours: 75 h	Theory: 3
METHODS OF MUSCULOSKELETAL PHYSIOTHERAPY II	- Invasive physiotherapy applied to musculoskeletal pain. Introduction to the concept of Myofascial Pain Syndrome and trigger points. Clinical characteristics of myofascial trigger points. - Manual joint physiotherapy. Joint mobilization of the spine and pelvis. - Clinical practice guidelines in musculoskeletal physiotherapy. - Neuropathic pain and neurodynamic mobilization in musculoskeletal physiotherapy. - Specific indications, contraindications, risks, and complications of neurodynamic mobilization techniques.	Directed: 60 h Autonomous: 90 h Total hours: 150 h	Theory: 6



NEUROLOGICAL PHYSIOTHERAPY METHODS I	- Fundamentals of the Bobath concept - Assessment and treatment of the neurological patient - Differential aspects in the treatment of the main neurological pathologies	Directed: 60 h Antonomous: 90 h Total hours: 150 h	Theory: 4 Practicie 2
GUESTED INTERNSHIP IN PHYSIOTHERAPY I	PHYSIOTHERAPY IN SPECIALIZED CARE - Physiotherapy for respiratory and cardiovascular patients - Post-surgical, intensive care, and bedridden physiotherapy - Physiotherapy for neurological patients - Physiotherapy for pediatric patients - Physiotherapy for trauma and orthopedic patients - Physiotherapy for geriatric patients - Physiotherapy for health promotion and disease prevention	Directed: 750 h Antonomous: 0 h Total hours: 750 h	Practicie: 30

FOURTH YEAR

Subjects	Descripción	Workload	Credits (ECTS)
PEDIATRIC AND GERIATRIC CONDITIONS	PEDIATRICS. - Cerebral palsy - Acquired brain injury in childhood - Spina bifida and spinal cord injury in childhood - Respiratory diseases in pediatrics - Head and neck pathologies. Plagiocephaly and congenital torticollis - Pain of vertebral origin in children and adolescents - Obstetric brachial plexus palsy - Congenital hip dislocation. Perthes disease - Juvenile idiopathic arthritis and other inflammatory diseases in childhood - Genetic, dysmorphic, and rare syndromes - Down syndrome - Osteochondrodysplasias. Arthrogryposis - Congenital limb malformations - Amputations in childhood - Pediatric oncology - Juvenile diabetes - Epileptic syndromes in childhood. Febrile seizures - Premature newborn. - Childhood infectious diseases. - Congenital heart disease in childhood. INVOLUCIÓN Y SÍNDROMES GERIÁTRICOS. - Aging by organ systems. - Healthy aging. - Assessment - Definition of geriatric syndromes. - Dementia and confusional syndromes. - Psychiatric disorders in the elderly. Depression. Anxiety. Insomnia. - Digestive disorders in the elderly: Constipation and fecal impaction. - Diabetes in adults. Hypothyroidism. Hypocorticism.	Directed: 60 h Antonomous: 90 h Total hours: 150 h	Theory: 6

	- Chronic kidney failure and other urinary tract conditions. - Menopause. Benign prostatic hyperplasia. - Immobility and malnutrition in the elderly. Dehydration. Temperature regulation disorders. - Visual and hearing impairments. - Instability and falls syndrome in the elderly. - Oncology in the elderly. - Iatrogenic factors. - Social isolation and dependency. Institutionalization. Ethical considerations. - Terminal situations. Terminally ill patient and palliative care		
PEDIATRIC AND GERIATRIC PHYSIOTHERAPY	ASSESSMENT AND TREATMENT IN PEDIATRIC PHYSIOTHERAPY - Assessment of sensorimotor development and orthopedic evaluation - Functional assessment. Tests and rating scales. Evaluation of the family and environment. - Physiotherapy for at-risk children - Physiotherapy for the most common congenital disorders in newborns - Physiotherapy for cerebral palsy and pediatric traumatic brain injury - Physiotherapy for spina bifida and pediatric spinal cord injuries - Physiotherapy for neuromuscular diseases - Physiotherapy for autism spectrum disorders and other behavioral disorders - Physiotherapy for the most common pediatric spinal and thoracic disorders - Physiotherapy for the most common respiratory, digestive, and urogynecological disorders in childhood. ASSESSMENT AND TREATMENT IN GERIATRIC PHYSIOTHERAPY - Introduction to geriatric physiotherapy. The life cycle, aging, frailty, and their impact on the body. - Functional assessment and health-related quality of life in geriatrics. - Physiotherapy for various musculoskeletal conditions in geriatric patients. - Physiotherapy for patients with osteoarthritis and arthritis. - Physiotherapy for geriatric patients with bone and joint pathologies. - Physiotherapy for geriatric patients with vascular pathologies and endocrine diseases. - Physiotherapy for the most common neurological diseases in geriatric patients. - Physiotherapy for geriatric patients with various emotional states, mental disorders, and behavioral problems.	Directed: 30 h Autonomous: 45 h Total hours: 75 h	Theory: 3



NEUROLOGICAL PHYSIOTHERAPY METHODS II	- Therapy in multisensory rooms - Constraint-induced movement therapy (CIMT) - Mirror therapy for neurological patients - Therapeutic psychomotor therapy - Therapeutic exercise for neurological patients - Virtual, mixed, and augmented reality in neurological physiotherapy - Robotics in neurorehabilitation - Design of neurological physiotherapy programs based on the ICF	Directed: 30 h Autonomous: 45 h Total hours: 75 h	Theory: 2 Practice: 1
PEDIATRIC AND GERIATRIC PHYSIOTHERAPY METHODS	PHYSIOTHERAPY IN PEDIATRICS - Pediatric physiotherapy in child development - Pediatric physiotherapy interventions: Infant massage for children with disabilities. Vojta method. Bobath concept. Neurocognitive physiotherapy (Perfetti-Puccini method) and motor learning. Other therapeutic approaches and orthopedic care FISIOTERAPIA EN GERIATRÍA - Physiotherapy assessment of the most frequent geriatric conditions: Classification of the geriatric patient. Frailty. Gait in the geriatric patient. Risk of falls and fall prevention. Balance, stability, and postural control in the geriatric patient. Coordination and cognitive aspects of the geriatric patient. Sedentary lifestyle and therapeutic exercise in the geriatric patient. - Physiotherapy treatment of the most frequent geriatric conditions: Therapy aimed at fall prevention. Therapeutic exercise in the geriatric patient.	Directed: 60 h Autonomous: 90 h Total hours: 150 h	Theory: 5 Practice: 1
GUESTED INTERNSHIP IN PHYSIOTHERAPY II	PHYSIOTHERAPY IN PRIMARY CARE: - Physiotherapy for neurological patients - Physiotherapy for traumatology and orthopedics patients	Directed: 150 h Autonomous: 0 h Total hours: 150 h	Practice: 6
GUESTED INTERNSHIP IN PHYSIOTHERAPY III	PHYSIOTHERAPY IN SPECIALIZED CARE: - Physiotherapy for respiratory and cardiovascular patients - Post-surgical, intensive care, and bedridden physiotherapy - Physiotherapy for neurological patients - Physiotherapy for pediatric patients - Physiotherapy for trauma and orthopedic patients - Physiotherapy for geriatric patients - Physiotherapy for oncology patients - Physiotherapy for health promotion and disease prevention	Directed: 600 h Autonomous: 0 h Total hours: 600 h	Practice: 24
FINAL DEGREE PROJECT	Preparation, presentation and defense before a University Tribunal of a final degree project as an exercise integrating the training content received and the skills acquired throughout the degree.	Directed: 30 h Autonomous: 120 h Total hours: 150 h	Theory: 1 Practice: 5