टिळक महाराष्ट्र विद्यापीठ
Tilak Maharashtra Vidyapeeth
(Declared as 'Deemed to be University' Under Section - 3 of UGC Act 1956 vide Notification No. F9-19/85-U-3 dated 24th April 1987 by the Government of India.)
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Outward No: Physio/2025/125 Date:1st April 2025

2.6.2 Course Outcomes

First Year Bachelor of Physiotherapy

Course: Human Anatomy

Course Outcomes: The student should be able to

CO1	Understanding the structure and function of the human body
CO2	Identification and localization of anatomical structures
CO3	Understanding the role of anatomy in physiotherapy assessment and diagnosis.
CO4	Application of anatomical knowledge in therapeutic techniques
CO5	Critical thinking and problem-solving in clinical anatomy
CO6	Communication of anatomical knowledge in clinical practice

Course: Human Physiology

Course Outcomes: The student should be able to

CO1	Understand the basic physiological functions of major organ systems, including the cardiovascular, respiratory, nervous, and musculoskeletal systems.

CO2	Demonstrate knowledge of the biochemical and physiological mechanisms that regulate homeostasis in the human body.
CO3	Analyze physiological responses to exercise and stress and apply them to clinical practice in physiotherapy.
CO4	Assess and interpret vital signs and other physiological parameters during clinical evaluations.
CO5	Relate physiological principles to common disorders encountered in physiotherapy, such as metabolic diseases, cardiovascular conditions, and respiratory dysfunctions.
CO6	Develop communication skills to explain physiological concepts to patients in a clinical setting.

Course: Biochemistry

Course Outcomes: The student should know:

CO1	Understand the basic principles of biochemistry, including the structure and function of biomolecules (proteins, lipids, carbohydrates, and nucleic acids).
CO2	Understand the basic principles of biochemistry, including the structure and function of biomolecules (proteins, lipids, carbohydrates, and nucleic acids).
CO3	Apply knowledge of biochemical pathways to understand the pathophysiology of common conditions treated in physiotherapy, such as diabetes and metabolic syndrome.
CO4	Analyze laboratory results, including blood biochemistry, and interpret these findings for clinical physiotherapy practice
CO5	Demonstrate the application of biochemistry in understanding the effects of various

	physiotherapy interventions (e.g., exercise, manual therapy).
CO6	Develop skills to educate patients on how biochemical factors influence rehabilitation outcomes, particularly in chronic conditions

Course: Fundamentals of Kinesiology & Kinesiotherapy

Course Outcomes: Students should be able to

CO1	Understand the basic principles of kinesiology, including biomechanics, joint movement, and muscle function
CO2	Demonstrate knowledge of human motion and its application to physiotherapy assessment and interventions
CO3	Analyze the effects of muscle imbalances, postural deviations, and movement dysfunctions on physical performance and health.
CO4	Apply kinesiology principles to design and implement rehabilitation programs that enhance movement efficiency and reduce injury risk.
CO5	Assess and modify human movement patterns for injury prevention, rehabilitation, and improved functional outcomes.
CO6	Communicate kinesiology concepts effectively with patients to enhance their understanding of their movement patterns and rehabilitation goals.

Course: Fundamentals of Electrotherapy

Course Outcomes: Students should be able to

CO1	Understand the physiological principles behind electrotherapy modalities and their effects on tissues.
CO2	Demonstrate knowledge of various electrotherapy techniques, including TENS, ultrasound, and interferential therapy.
CO3	Apply electrotherapy techniques for pain management, tissue healing, and muscle rehabilitation
CO4	Analyze patient responses to electrotherapy and modify treatment plans accordingly to optimize therapeutic outcomes.
CO5	Develop practical skills to use electrotherapy equipment safely and effectively in clinical settings.
CO6	Educate patients on the benefits, limitations, and safety protocols associated with electrotherapy.

SECOND YEAR PHYSIOTHERAPY

Course: Pathology

Course Outcomes: Students should be able to

CO1	Understand the general principles of pathology, including the causes, mechanisms, and effects of diseases on body systems.
CO2	Recognize and interpret the pathophysiology of common conditions treated in physiotherapy, such as musculoskeletal injuries, neurological diseases, and inflammatory conditions
CO3	Identify the role of inflammation, infection, and tissue repair in the context of physiotherapy rehabilitation.
CO4	Apply knowledge of pathological processes to improve patient assessment and

	treatment planning.
CO5	Correlate pathological findings with clinical manifestations to enhance diagnosis and rehabilitation approaches
CO6	Communicate pathological concepts and their implications for physiotherapy practice to patients and other healthcare providers.

Course: Microbiology

Course Outcomes: Students should be able to

CO1	Understand the basic principles of microbiology, including the structure, classification, and growth of microorganisms
CO2	Demonstrate knowledge of the role of microorganisms in infections, particularly those affecting the musculoskeletal and respiratory systems.
CO3	Identify common pathogens encountered in physiotherapy settings and their potential impact on treatment outcomes.
CO4	Implement infection control practices, including sterilization and hygiene protocols, to ensure patient safety in clinical environments.
CO5	Apply microbiological principles to understand the role of infections in musculoskeletal injuries and chronic conditions
CO6	Educate patients on infection prevention, including safe practices during rehabilitation and physical activity.

Course: Pharmacology

Course Outcomes: Students should be able to

CO1	Understand the basic principles of pharmacology, including drug classifications, mechanisms of action, and therapeutic uses
CO2	Demonstrate knowledge of pharmacokinetics and pharmacodynamics as they relate to physiotherapy practice
CO3	Assess the impact of commonly prescribed medications (e.g., analgesics, anti-inflammatories) on physiotherapy treatments and rehabilitation outcomes
CO4	Monitor and manage potential drug interactions in patients receiving physiotherapy treatments.
CO5	Understand the role of pharmacological agents in pain management and inflammation control during rehabilitation.
CO6	Educate patients on the safe use of medications in conjunction with physiotherapy interventions.

Course: Psychology (including psychiatry)

Course Outcomes: Students should be able to

CO1	Understand the basic principles of mental health and psychiatric disorders, including common conditions like anxiety, depression, and psychosis.
CO2	Recognize the impact of psychiatric conditions on physical health, rehabilitation outcomes, and quality of life
CO3	Assess and interpret the psychological and emotional status of patients undergoing physiotherapy.
CO4	Develop communication skills to work effectively with patients who have psychiatric conditions, providing holistic care
CO5	Apply therapeutic strategies to address mental health issues in the context of physiotherapy rehabilitation.

CO6	Collaborate with mental health professionals to provide integrated care for patients with co-existing physical and psychiatric conditions.

Course: Kinesiotherapy

Course Outcomes: Students should be able to

CO1	Understand the principles of therapeutic exercise and its application in the rehabilitation of musculoskeletal and neurological conditions
CO2	Design and implement individualized kinesiotherapy programs that aim to improve strength, mobility, and functional capacity
CO3	Analyze patient progress and modify kinesiotherapy techniques to optimize outcomes based on assessment findings
CO4	Incorporate a biopsychosocial approach to kinesiotherapy, considering the mental, emotional, and physical factors affecting rehabilitation
CO5	Use evidence-based practices to enhance the effectiveness of kinesiotherapy interventions.
CO6	Educate patients on the importance of exercise and movement in long-term health and rehabilitation.

Course: Kinesiology

Course Outcomes: Students should be able to

CO1	Understand the fundamental concepts of kinesiology, including the study of human motion, muscle actions, and biomechanics
CO2	Apply kinesiological principles to analyze and correct movement dysfunctions and posture abnormalities.
CO3	Assess the mechanical and physiological effects of different movement patterns

	on the body's joints and tissues.
CO4	Design and implement rehabilitation programs based on kinesiological principles to improve patient outcomes.
CO5	Utilize kinesiological assessment tools and techniques to monitor and document patient progress.
CO6	Communicate effectively with patients about movement patterns, posture correction, and rehabilitation strategies

Course: Electrotherapy

Course Outcomes: Students should be able to

CO1	Understand the basic principles of electrotherapy and its applications in physiotherapy treatment
CO2	Demonstrate knowledge of different electrotherapy modalities (e.g., TENS, ultrasound, laser therapy) and their therapeutic effects
CO3	Apply electrotherapy techniques to treat musculoskeletal pain, improve circulation, and promote tissue healing
CO4	Assess patient responses to electrotherapy and adjust treatment parameters for optimal results.
CO5	Understand the safety precautions, contraindications, and ethical considerations in the use of electrotherapy
CO6	Educate patients on the benefits and limitations of electrotherapy modalities as part of their rehabilitation program

Third year physiotherapy

Course: Surgery I

Course Outcomes: Students should be able to

CO1	Understand the basic principles of general surgery, including pre-operative and post-operative care.
CO2	Recognize surgical interventions relevant to physiotherapy practice, such as joint replacements and abdominal surgeries
CO3	Assess the implications of surgical conditions and treatments on rehabilitation outcomes and recovery time
CO4	Develop rehabilitation protocols for post-surgical patients to enhance recovery and prevent complications.
CO5	Collaborate with surgeons and other healthcare professionals in the multidisciplinary management of surgical patients
CO6	Educate patients on post-surgical rehabilitation, including activity modification, pain management, and mobility enhancement.

Course: Surgery II

Course Outcomes: Students should be able to

CO1	Understand the principles of orthopedic assessment and diagnosis, including the evaluation of musculoskeletal injuries and deformities
CO2	Identify the anatomical and functional consequences of common orthopedic conditions, such as fractures, arthritis, and spinal disorders.
CO3	Develop treatment plans using physiotherapy interventions such as manual therapy, exercises, and modalities to aid orthopedic recovery.
CO4	Assess and monitor orthopedic rehabilitation progress, adjusting treatments based on patient response.
CO5	Understand the importance of patient education in managing orthopedic

	conditions and preventing further injury.
CO6	Collaborate with orthopedic surgeons and other healthcare providers in managing complex musculoskeletal conditions

Course: MEDICINE I

Course Outcomes: Students should be able to

CO1	Understand the basic principles of general medicine, including common diseases and their systemic effects.
CO2	Recognize how systemic conditions, such as cardiovascular and metabolic disorders, influence physiotherapy treatments
CO3	Assess the medical history and co-morbidities of patients to tailor physiotherapy interventions
CO4	Collaborate with medical professionals in the management of patients with chronic medical conditions requiring physiotherapy.
CO5	Understand pharmacological interventions and their interaction with physiotherapy modalities.
CO6	Educate patients on managing chronic medical conditions through physiotherapy interventions and lifestyle modifications

Course: MEDICINE II

Course Outcomes: Students should be able to

CO1	Understand the principles of neurology, including the pathophysiology of neurological disorders.
CO2	Recognize and assess common neurological conditions encountered in physiotherapy, such as stroke, multiple sclerosis, and Parkinson's disease.

CO3	Apply neurological rehabilitation techniques, including motor retraining, sensory stimulation, and functional mobility training
CO4	Collaborate with neurologists in the management of neurological disorders, creating multidisciplinary care plans
CO5	Evaluate patient progress in neurological rehabilitation and adjust treatment approaches accordingly
CO6	Educate patients on the role of physiotherapy in improving neurological function and quality of life.

Course: Functional Diagnosis and Manipulative Skills

Course Outcomes: Students should be able to

CO1	Develop the ability to perform comprehensive functional assessments, including postural analysis, movement screening, and joint mobility testing.
CO2	Apply manipulative skills in the assessment and treatment of musculoskeletal dysfunctions
CO3	Use functional diagnosis to identify underlying causes of movement dysfunction and design targeted treatment interventions
CO4	Utilize manual therapy techniques to improve joint function, relieve pain, and enhance mobility
CO5	Understand the indications, contraindications, and limitations of manual therapy and manipulative interventions
CO6	Communicate functional diagnoses and manipulative techniques effectively to patients for better understanding and compliance.

Course: Community Health and Sociology

Course Outcomes: Students should be able to

CO1	Understand the principles of community health, including the impact of social determinants on health and rehabilitation
CO2	Analyze the role of physiotherapy in community-based health initiatives and prevention programs.
CO3	Assess the impact of sociocultural factors on patient rehabilitation and outcomes
CO4	Collaborate with community health professionals to design and implement public health initiatives focused on musculoskeletal and neurological well-being
CO5	Address health disparities in vulnerable populations and ensure equitable access to physiotherapy services
CO6	Educate patients and communities on injury prevention and the promotion of physical activity for overall health

Forth year physiotherapy

Course: Physiotherapy in Musculoskeletal Sciences

Course Outcomes: Students should be able to

CO1	Understand the pathophysiology and clinical presentation of common musculoskeletal disorders, including sprains, strains, arthritis, and post-surgical conditions.
CO2	Develop and implement rehabilitation programs aimed at improving mobility, strength, and function in patients with musculoskeletal conditions
CO3	Assess and manage pain associated with musculoskeletal injuries using physiotherapy modalities and manual therapy
CO4	Use evidence-based techniques to prevent musculoskeletal injuries in athletes and the general population.
CO5	Educate patients on self-management strategies to reduce the risk of recurrence and improve long-term outcomes

CO6	Collaborate with orthopedic and rehabilitation teams in the comprehensive management of musculoskeletal conditions

Course: Physiotherapy in Neurosciences

Course Outcomes: Students should be able to

CO1	Understand the pathophysiology of common neurological conditions, including stroke, traumatic brain injury, and multiple sclerosis.
CO2	Assess and evaluate functional impairments and disabilities caused by neurological conditions
CO3	Develop individualized rehabilitation plans for neurological patients, focusing on improving motor function, coordination, and balance.
CO4	Apply evidence-based interventions, such as neuroplasticity-based exercises, to improve neurological rehabilitation outcomes
CO5	Address psychosocial aspects of neurological rehabilitation, including coping mechanisms and family support.
CO6	Educate patients and caregivers on strategies to manage neurological conditions and improve daily functioning

Course: Physiotherapy in Cardiovascular and Respiratory sciences

Course Outcomes: Students should be able to

CO1	Understand the pathophysiology of common cardiovascular and respiratory diseases, including COPD, asthma, heart failure, and post-cardiac surgery recovery.
CO2	Assess cardiovascular and respiratory function using tests like the 6-minute walk test and spirometry.
CO3	Design rehabilitation programs that enhance cardiovascular fitness, respiratory endurance, and overall functional capacity

CO4	Apply breathing techniques, aerobic exercises, and posture correction strategies to improve pulmonary function and oxygenation
CO5	Monitor and adjust rehabilitation plans based on patient responses and clinical progress.
CO6	Educate patients on lifestyle modifications, including diet, exercise, and smoking cessation, to improve cardiovascular and respiratory health

Course: Physiotherapy in Community-Based Rehabilitation

Course Outcomes: Students should be able to

CO1	Understand the principles of community-based rehabilitation, including its role in enhancing accessibility and promoting health equity.
CO2	Assess the rehabilitation needs of individuals and communities, particularly in rural or underserved populations
CO3	Design and implement community-focused physiotherapy programs to promote mobility, independence, and overall quality of life
CO4	Collaborate with local healthcare providers and community organizations to ensure sustainable rehabilitation programs
CO5	Address barriers to access, such as socioeconomic status, cultural differences, and physical limitations, in community-based rehabilitation
CO6	Educate the community on injury prevention, physical activity promotion, and rehabilitation options available at the local level

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Principal

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