جامعة عجمان
AJMAN UNIVERSITY

Bachelor of Science in Physiotherapy (BSPT)
Course Description

September 2025

A. College Obligatory Courses

PHA119 Human Anatomy and Physiology I
This course offers physiotherapy students a comprehensive introduction to human anatomy and physiology, focusing on the structure and function of tissues, organs, and key body systems through a system-based approach. Students will gain a solid understanding of homeostasis, anatomical language, and the physiological processes that support normal health and common conditions encountered in physiotherapy. By the end of the course, students will be able to explain the anatomy and function of major organ systems, apply anatomical knowledge to clinical scenarios, and use correct terminology in both written and practical settings.
PR: NA

PHA126 General Physics for Health Science
This course is designed to cover the basic concepts in most branches of classical physics including linear motion, Newton's laws, rotational motion, work-energy conservation, light, electricity and thermodynamics. Besides, some of modern physics concepts applicable to X-Ray, lasers, radioactivity, isotopes lifetime and applications of these concepts will also be covered.
PR: NA

PHA127 Human Anatomy and Physiology II
This course offers physiotherapy students a comprehensive introduction to human anatomy and physiology, focusing on the structure and function of tissues, organs, and key body systems through a system-based approach. Students will gain a solid understanding of homeostasis, anatomical language, and the physiological processes that support normal health and common conditions encountered in physiotherapy. By the end of the course, students will be able to explain the anatomy and function of major organ systems, apply anatomical knowledge to clinical scenarios, and use correct terminology in both written and practical settings.
PR: PHA119

PHA128 Biochemistry
The course is designed to provide a comprehensive knowledge of the major topics in biochemistry. It explores how the structure of proteins, carbohydrates, lipids, nucleic acids, and vitamins relates to their function. Metabolism and energy production as well as biosynthesis of small and macromolecules is discussed.
PR: PHA146

PHA146 General Chemistry for Health Sciences
This course presents the fundamentals of certain topics in general chemistry. It includes two major parts: Part I is the general part, and Part II is the organic part.
The general part will introduce the student to basic aspects of general chemistry, i.e. the atomic structures, electronic configuration, periodic table of elements, chemistry of metals, and the fundamentals of chemical bonds and chemical reactions.
The organic part covers some important areas in organic chemistry, which include aliphatic and aromatic hydrocarbons, stereochemistry, as well as some functional groups, e.g: alcohols, phenols, carbonyl compounds.
PR: NA

PHA215 Pathophysiology
Students will develop an understanding of pathology underlying clinical disease states involving the major organ systems and epidemiological issues. Students will learn to recognize pathology signs and symptoms considered red flags for serious disease. Students will use problem-solving skills and information about pathology to decide when referrals to another health care provider or alternative interventions are indicated. Students will develop the ability to disseminate pertinent information and findings, and ascertain the appropriate steps to follow.
PR: PHA119, PHA127

PHA321 Pharmacology
This course covers the basic knowledge of Pharmacology including administration, physiologic response and adverse effects of drugs under normal and pathologic conditions. Topics focus on the influence of drugs in rehabilitation patient/client management. Drugs used in iontophoresis and phonoporesis will be discussed in detail.
PR: PHA128, PHA215

B. Department Obligatory Courses

PTB100 Introduction to Healthcare
This course is designed to provide physiotherapy program students with a comprehensive overview of the healthcare system and the fundamental concepts and principles that underpin the delivery of healthcare services. This course serves as a foundational introduction to the field of physiotherapy and establishes a framework for subsequent courses in the physiotherapy program.
PR: NA

PTB101 Communication Skills for Physiotherapy
This course aims to introduce aspects of communication skills necessary during the provision of health care to patients. The course is designed to help physiotherapy students to use effective communication techniques in a variety of contexts and with a variety of people using different forms of communication that lead to establishing principles of professional communication and communication with interdisciplinary teams. This course also helps the students to communicate with the language used in medicine and familiarize them with the medical terminology of diseases, diagnostic techniques, and treatments related to each body system and respective field.
PR: NA

PTB211 Biomechanics and Kinesiology-I
This course integrates the knowledge of anatomy and enables the student to have a better understanding of the principles of biomechanics, the science of movement and their application in musculoskeletal function and dysfunction. The practical sessions also help the students to experience clinically the application of the principles of Biomechanics.
PR: PHA119, PHA126, PHA127, PHA128

PTB212 Therapeutic Modalities
This course tends to explore fundamental concepts and skills in application of electrotherapeutic modalities and knowledge of indications, contraindications and physiological principles needed for appropriate patient care through electro physical agents.

PR: PHA119, PHA127

PTB221 Biomechanics and Kinesiology-II
This course integrates the knowledge of anatomy and enables the student to have a better understanding of the principles of biomechanics, the science of movement and their application in musculoskeletal function and dysfunction. The practical sessions also helps the students to experience clinically the application of the principles of Biomechanics.
PR: PTB211

PTB222 Therapeutic Exercise
This course is based on anatomical and physiological & related kinesiological principles for normal human movement and for the efficacy in the assessment methods for mobility, muscle strength. Students have the opportunity to develop and acquire understanding of physiological responses to various types of training and develop skills of exercise programs (on models). Exercise components of muscle strength, flexibility, balance, breathing and gait are examined. Evidence of appropriate, safe and effective exercise design and proper exercise biomechanics and prescription parameters are addressed with all interventions.
PR: PHA119, PHA126, PHA127, PHA128

PTB223 Clinical Placement for Respiratory and Cardiovascular Conditions
Clinical Placement in Cardiovascular & Respiratory Physiotherapy provides hands-on experience in assessing and treating patients with cardiovascular and respiratory conditions. Students apply evidence-based practice, develop clinical skills, and learn to promote physical function, mobility, and cardiorespiratory health in these critical care areas under expert supervision.
PR: PHA215, PTB212, PTB222
CR: PTB226

PTB224 Assessment in Physical Therapy
This course provides students with the knowledge and skills to conduct comprehensive physical assessments of patients with various musculoskeletal, neurological, and cardiopulmonary conditions. Students will learn to select and perform appropriate assessment techniques, including observation, palpation, range of motion, muscle strength testing, and special tests. The course emphasizes the importance of accurate and reliable assessment findings in developing effective treatment plans.
PR: PHA215, PTB211, PTB212, PTB222

PTB225 Exercise Physiology
The course covers the physiological responses and adaptations to exercise, emphasizing their application in physiotherapy. Students learn to assess fitness, design exercise programs, and apply evidence-based strategies to enhance recovery, performance, and health. Topics include cardiovascular, respiratory, and muscular systems, energy metabolism, and exercise prescription for diverse populations.
PR: NA

PTB226 Physical Therapy for Respiratory and Cardiovascular Conditions
Cardiovascular and Respiratory Physiotherapy focuses on maximizing functional independence and well-being. This course uses a patient-centered model of care with multi-system assessment,

evidence-based interventions and a significant patient education component to promote healthy active lifestyle and community-based living. The candidate will have a sound understanding of theory, scientific evidence and best practices in the areas of the Cardio vascular and Respiratory System including critical care, Psychosocial Sciences, Movement Sciences and Physiotherapy.
PR: PHA215, PTB212, PTB222

PHA476 Therapeutics III
This course provides students with in-depth therapeutic knowledge on neurological, psychiatric, bone, and hematological disorders. The course aims to improve students' ability to identify and critically assess the relevant factors for the management of patients with neurological, psychiatric, bone, and hematological disorders. Further, it is designed to help students integrate drug therapy into an overall neurological, psychiatric, bone, and hematological disorders management plan.
PR: PHA379

PTB227 Research Methodology for Health Sciences
This course introduces health sciences students to research methods essential for academic and clinical investigation. Students explore the elements of a research framework including problem identification, study design, literature review, data collection, statistical analysis, research ethics, and scientific reporting.
PR: NA

PTB311 Physical Therapy for MSK conditions-I
This course focuses on the assessment and management of musculoskeletal (MSK) conditions using evidence-based physiotherapy practices. It covers joint, muscle, and bone disorders, including injuries and degenerative diseases. Students learn clinical reasoning, manual therapy techniques, exercise prescription, and rehabilitation strategies to restore function, reduce pain, and enhance patient mobility.
PR: PHA215, PTB211, PTB212, PTB222

PTB312 Biostatistics
This course provides students with recall of concepts of Biostatistics to enable them to perform advanced research project in the field of Physiotherapy. It involves selection of appropriate statistical techniques to address questions of Healthcare relevance. It explores current and anticipated developments in medical statistics as applied to physiotherapists.
PR: NA

PTB313 Orthotics
The course is designed to give knowledge & application of biomechanical principles related to Orthotics & Prosthetics. Students will also learn the principles of the prescription & the checkout procedures of aids &appliances as per the physical dysfunction of the person. They will learn to fabricate simple splints.
PR: NA

PTB314 Physical Therapy for Medical/ Surgical Conditions
This course covers physiotherapy assessment and management of medical and surgical conditions. It emphasizes evidence-based practices for respiratory, cardiovascular, gastrointestinal, and post-operative care. Students learn to design rehabilitation programs, enhance functional recovery, and

promote patient independence across clinical settings. Focus is placed on safety, documentation, and interdisciplinary collaboration.
PR: PHA215, PTB211, PTB212, PTB222, PTB221, PTB224

PTB315 Clinical Placement for MSK-I and Medical / Surgical Conditions
Clinical Placement in Musculoskeletal & Medical/Surgical Physiotherapy provides hands-on experience in assessing and treating patients with musculoskeletal conditions and those undergoing medical/surgical interventions. Students apply evidence-based practice, develop clinical skills, and learn to promote recovery, function, and mobility in these diverse patient populations.
PR: PHA215, PTB211, PTB212, PTB221, PTB222
CR: PTB311, PTB314

PTB321 Physical Therapy for MSK conditions-II
This course provides in-depth knowledge and skills for the assessment, diagnosis, and physiotherapy management of musculoskeletal (MSK) conditions. It includes acute and chronic disorders affecting joints, muscles, bones, and soft tissues. Emphasis is placed on manual therapy, therapeutic exercise, pain management, and functional rehabilitation to restore mobility, prevent disability, and improve quality of life.
PR: PTB311

PTB322 Physical Therapy for Neurological Conditions
This course is implemented to provide in depth knowledge and skills in applied basics of neurological physiotherapy. On completion of this course the student will be able to understand, evaluate, synthesis and apply concepts of basic functional neurological assessment and overview of the management techniques adapted in neurological physiotherapy.
PR: PHA215, PTB211, PTB212, PTB222, PTB221, PTB224

PTB323 Clinical Placement for MSK-II Neurological Conditions
Clinical Placement in Musculoskeletal & Neurological Physiotherapy provides hands-on experience in assessing and treating patients with musculoskeletal and neurological conditions. Students apply evidence-based practice, develop clinical skills, and learn to promote physical function, mobility, and independence in these specialized areas under expert supervision.
PR: PTB321, PTB322

PTB411 Physical Therapy for Pediatrics
This course covers physiological changes of development and clinical aspects of various pediatric conditions. It enhances knowledge on patho mechanics in various pediatric conditions, its investigations and physiotherapy management. This course focuses on the integration between evidence-based practice and current clinical practice. Clinical reasoning is fundamental to all assessment, treatment and rehabilitation of various disorders in pediatrics. This course focuses on improving skill and clinical competency in clinical practice and research related to pediatric conditions.
PR: PHA215, PTB211, PTB212, PTB222, PTB221, PTB224, PTB313

PTB412 Physical Therapy for Obstetrics and Gynecology
The course is designed to analyze interpret the pelvic floor dysfunction and rehabilitation program which would be specialized according to the women, and evaluate appropriate exercise programs for women with specific needs, create awareness and carry out research in this area and able to appreciate the significance and knowledge of women's health to the wider community. Evaluate

pathological changes which impact on psychological well-being in women different phase of life.
PR: PHA215, PTB211, PTB212, PTB221, PTB222, PTB224

PTB413 Clinical Placement for Pediatrics, Obstetrics and Gynecology
Clinical Placement in Obstetrics and Pediatrics Physiotherapy provides hands-on experience in assessing and treating pregnant women, new mothers, and pediatric patients. Students apply evidence-based practice, develop clinical skills, and learn to promote physical function, health, and well-being in these specialized populations under expert supervision.
CR: PTB411, PTB412

PTB414 Graduation Project – I
The Project course enables students to develop knowledge and applicability of physiotherapy research. The course is intended to be conducted through individual supervision and training, Student should carry out the procedure for identifying sources of evidence, designing, developing empirical methods to access the intended study procedure and obtain Institutional approvals and carry out research methods.
PR: PTB227, After 100 C.H.

PTB421 Physical Therapy for Geriatrics
This course covers physiological changes of aging and clinical aspects of various geriatric conditions. It enhances knowledge on various important geriatric conditions, its assessment, investigations and physiotherapy management. This course focuses on the integration between evidence-based practice and current clinical practice. Clinical reasoning is fundamental to all assessment, treatment, management and rehabilitation of multi system disorders in geriatrics. It improves skill and clinical competencies in clinical practice, research and issues related to geriatric problems.
PR: PHA215, PTB211, PTB212, PTB222, PTB221, PTB224, PTB313

PTB424 Graduation Project –II
The Project course enables students to develop knowledge and applicability of physiotherapy research. The course is intended to be conducted through individual supervision and training, Student should carry out the procedure for identifying sources of evidence, designing, developing empirical methods to access the intended study procedure and obtain Institutional approvals and carry out research methods.
PR: PTB414

C. Department Elective Courses

PTB422 Informatics in Physical Therapy
This course is designed to appreciate the role of computer technology in physiotherapy profession. The course has focus on computer organization, computer operating system and word processing software, worksheet, presentation software etc.
PR: PTB414, After 100 C.H.

PTB423 Sports Physical Therapy
This course introduces students to the principles and practices of physical therapy in the management of sports-related injuries. Emphasis is placed on the evaluation, prevention, treatment,

and rehabilitation of athletic injuries across various levels of physical activity and sports. Students will learn evidence-based techniques for injury assessment, therapeutic interventions, return-to-sport protocols, and performance enhancement. The course also explores the roles and responsibilities of physical therapists within interdisciplinary sports medicine teams, including ethical and legal considerations in athletic care. Laboratory sessions and case-based discussions are integrated to develop clinical decision-making and hands-on skills specific to sports physical therapy.
PR: PHA119, PHA127, PTB211, PTB221, PTB222, PTB224, PTB225, After 100 C.H.