

# PHYSICAL THERAPY (PT)

## PT 503 Human Anatomy 5 sem. hrs.

This foundational course in typical human anatomy provides an in-depth examination of the anatomy in preparation for the study of conditions and disease states encountered in clinical practice. This course includes gross anatomy laboratory which focuses on the functional anatomy of the nervous, musculoskeletal, and cardiovascular systems in the regions of most clinical importance to rehabilitation professionals.

## PT 503L Human Anatomy: Lab 0 sem. hrs.

## PT 504 Foundations of Neuroscience 4 sem. hrs.

This course is designed to expand on previous science courses in order to provide a more in-depth understanding of the structure and function of the human nervous system in normal and pathological conditions. Material presented in this course provides the foundational science background for future applied courses related to physical therapy management of patients with conditions affecting the neuromuscular system. The course presents classroom and laboratory learning experiences that build from an understanding of basic nervous system functions at molecular and cellular levels to more complex functions involving whole systems. Structural changes in the nervous system are related to functional changes that occur during development, following injury, and with aging. A problem/ case study approach to learning is emphasized in order to further develop the student's critical inquiry and clinical decision-making abilities.

## PT 504L Found of Neuroscience Lab 0 sem. hrs.

## PT 506 Foundations of Pharmacology 2 sem. hrs.

This course presents the foundational concepts of pharmacology emphasizing basic mechanisms of drug action such as pharmacokinetics, pharmacodynamics and pharmacotherapeutics. Drug classes illustrated using prototypic drugs. Examples drawn from various body systems.

## PT 511 Foundations of Examination I 4 sem. hrs.

This course is aimed at developing a foundational platform for students to utilize the patient client management system when managing individuals from wellness through injury or illness. This includes primary, secondary and tertiary care. The focus of the course will be on the physical therapy movement screen, including history, systems review and selected tests/measures. Common impairments, activity limitations, and participation restrictions associated with non-complex health conditions will be introduced to foster clinical reasoning skills required of entry-level practice.

## PT 515 Foundations of Biomechanics 5 sem. hrs.

This foundational science course in biomechanics focuses on the concept of human movement. Content focuses on the basic biomechanical principles of human tissues that create stability and movement and the structure and function of the major joints of the human body. Biomechanical principles and human movement analysis is enhanced through surface palpation labs. The course is essential to the initial journey of learners toward expertise in the movement system.

## PT 603 Human Anatomy 5 sem. hrs.

This foundational course in typical human anatomy provides an in-depth examination of the anatomy in preparation for the study of conditions and disease states encountered in clinical practice. This course includes gross anatomy laboratory which focuses on the functional anatomy of the nervous, musculoskeletal, and cardiovascular systems in the regions of most clinical importance to rehabilitation professionals.

## PT 603L Human Anatomy: Lab 0 sem. hrs.

## PT 604 Foundations of Neuroscience 4 sem. hrs.

This course is designed to expand on previous science courses in order to provide a more in-depth understanding of the structure and function of the human nervous system in normal and pathological conditions. Material presented in this course provides the foundational science background for future applied courses related to physical therapy management of patients with conditions affecting the neuromuscular system. The course presents classroom and laboratory learning experiences that build from an understanding of basic nervous system functions at molecular and cellular levels to more complex functions involving whole systems. Structural changes in the nervous system are related to functional changes that occur during development, following injury, and with aging. A problem/ case study approach to learning is emphasized in order to further develop the student's critical inquiry and clinical decision-making abilities.

## PT 604L Found of Neuroscience:Lab 0 sem. hrs.

## PT 605 Motor Learning/Motor Control 3 sem. hrs.

This course is a foundational course applicable to entry-level physical therapy practice pertaining to acquiring, controlling, and perfecting movement skill. The course will explore the application of the principles of motor control and motor learning as they apply to healthy individuals and those individuals with a variety of physical therapy impairments. In addition, students will explore motor control across development with an emphasis on reflexes and functional postures; general motor learning principles specific to the pediatric population will be introduced. This foundational knowledge will form a framework for both assessment and treatment of the neurologically involved child or adult and serve as a transitional course to expand on prior knowledge of neuroscience, therapeutic activities, and therapeutic exercise in preparation for subsequent course work.

## PT 606 Foundations of Pharmacology 2 sem. hrs.

This course presents the foundational concepts of pharmacology emphasizing basic mechanisms of drug action such as pharmacokinetics, pharmacodynamics and pharmacotherapeutics. Drug classes illustrated using prototypic drugs. Examples drawn from various body systems.

## PT 608 Foundations of Interventions 4 sem. hrs.

This is the foundational course that focuses on various general intervention strategies that may be used by a physical therapist. Content including the physiological mechanisms and impact of interventions, decision making process based on examination/evaluation data, and the principles and practical application of a variety of general interventions will be introduced. This information will prepare the student to critically think about, evaluate, and implement general interventions that may apply to a variety of populations.

## PT 611 Foundations of Examination I 4 sem. hrs.

This course is aimed at developing a foundational platform for students to utilize the patient client management system when managing individuals from wellness through injury or illness. This includes primary, secondary and tertiary care. The focus of the course will be on the physical therapy movement screen, including history, systems review and selected tests/measures. Common impairments, activity limitations, and participation restrictions associated with non-complex health conditions will be introduced to foster clinical reasoning skills required of entry-level practice.

**PT 612 Foundations of Examinations II 3 sem. hrs.**

This course is the second in a series of two courses on the foundational knowledge of physical therapy evaluation for individuals from wellness through injury or illness. The focus of the course will be on the physical therapy evaluation process including tests/measures and assessment as well as further integration of previous information covered in the curriculum, with consideration of primary, secondary, and tertiary care. Non-complex health conditions in different populations will be utilized in order to continue to foster the development the clinical reasoning skills required of entry-level practice. This course provides the foundation for future courses in each of the clinical systems of musculoskeletal, neurological, cardiopulmonary, and integumentary.

**PT 613 PT Mgmt of Mus-Skel Impair I 5 sem. hrs.**

This course is the first in a two-course musculoskeletal series. It presents an integrated approach to relevant physiologic, anatomic, theoretical, medical, and therapeutic concepts related to entry-level physical therapy management of common musculoskeletal conditions. This course builds upon students' foundational knowledge of examination and intervention techniques and develops the clinical reasoning and psychomotor skills needed for management of orthopedic conditions. Emphasis is placed on evidence-informed practice, including the appropriate selection and interpretation of special tests and the application of manual therapy techniques. Students develop skills for screening, examination, evaluation, diagnosis, prognosis, and plan of care development for musculoskeletal impairments through a combination of lectures, laboratory experiences, and case-based scenarios.

**PT 614 PT Mgmt of Mus-Skel Impair II 5 sem. hrs.**

This course is the second in a two-course musculoskeletal series. It presents an integrated approach to relevant physiologic, anatomic, theoretical, medical, and therapeutic concepts related to entry-level physical therapy management of advanced musculoskeletal conditions. Throughout this course, students refine their abilities in essential competencies for musculoskeletal physical therapist practice, including advanced orthopedic manual therapy techniques, complex clinical reasoning and differential diagnosis, and plan of care development for multifactorial orthopedic conditions. This course builds upon knowledge and skills introduced in PT 613 and further develops the psychomotor skills and clinical reasoning developed during the students' first musculoskeletal professional experience through a combination of lectures, laboratory experiences, and case-based scenarios.

**PT 615 Foundations of Biomechanics 5 sem. hrs.**

This foundational science course in biomechanics focuses on the concept of human movement. Content focuses on the basic biomechanical principles of human tissues that create stability and movement and the structure and function of the major joints of the human body. Biomechanical principles and human movement analysis is enhanced through surface palpation labs. The course is essential to the initial journey of learners toward expertise in the movement system.

**PT 701 Professional Practice I 2 sem. hrs.**

This course is an introduction to the profession of physical therapy. Distinguishing factors of a profession, including a historical review through contemporary physical therapy practice are covered. Students are introduced to national, state and regional professional organizations. The roles and responsibilities of a physical therapist, including ethical and legal perspectives and being an evidence-based practitioner are introduced. Students are guided through the discovery of practice expectations and develop strategies for personal growth through a framework of cultural humility. Students also are expected to demonstrate how they can participate in professional development activities as part of their professional formation.

**PT 702 Professional Practice II 1 sem. hr.**

The course is designed to prepare the student physical therapist for clinical practice. Students build upon knowledge and skills gained in Professional Practice I. Students are introduced to the roles of various participants in clinical practice and the assessment tools utilized during clinical education. Issues related to legal and ethical clinical practice are covered.

**PT 703 Professional Experience I 4 sem. hrs.**

This is the first of four clinical education experiences within the curriculum. Professional Experience I introduces the student to the general organization of a physical therapy practice that pertains to the care of individuals with musculoskeletal dysfunction either in an inpatient or outpatient setting. Students are responsible, under the direct guidance of a licensed clinical mentor, for the examination, evaluation, diagnostic, prognostic and intervention components for patient care. The specific content will vary depending upon the learning experiences available and the perceived or declared readiness of each student.

**PT 704 Professional Experience II 4 sem. hrs.**

This is the second of four clinical education experiences within the curriculum. Professional Experience II provides the student the opportunity to participate in a physical therapy practice that pertains to the care of varied individuals across the lifespan. Professional Experience II occurs in an inpatient acute, sub-acute or a rehabilitation setting. Some students may participate in an outpatient neurological or general rehabilitation experience. Under the direct guidance of a licensed physical therapist/clinical mentor, students are responsible, for the examination, evaluation, diagnostic, prognostic, and intervention components for patient care. Students are expected to function as part of a multi-disciplinary team and participate in practice management activities. The specific content will vary depending upon the learning experiences available and the perceived or declared readiness of each student.

**PT 705 Professional Experience III 5 sem. hrs.**

This is the third of four clinical education experiences within the curriculum. Professional Experience III provides students the opportunity to participate in a physical therapy practice that pertains to the care of individuals across the lifespan who experience acute or chronic musculoskeletal, neurological and/or cardiopulmonary dysfunctions. Students may practice in any practice setting, such as inpatient or outpatient settings across the lifespan. The focus is not on the type of practice setting, but the diversity of experience for the student. Students are responsible, under the direct guidance of a licensed clinical instructor/mentor, for the examination, evaluation, diagnostic, prognostic and intervention components for patient care. Students are expected to function as part of an interdisciplinary team if available and participate in practice management activities. The specific content will vary depending upon the learning experiences available and the perceived or declared readiness of each student.

**PT 706 Professional Experience IV 6 sem. hrs.**

This is the fourth and final clinical education experience within the curriculum. Professional Experience IV is scheduled after the completion of all didactic coursework in the basic, behavioral and clinical science courses. This course provides the student the opportunity to participate in a physical therapy practice that pertains to the care of individuals across the lifespan who experience neuromusculoskeletal, cardiopulmonary, or integumentary dysfunctions. Practice settings may vary based upon a student's clinical interests. Students may also be given the opportunity to focus on an area of interest involving either a specialized patient population (i.e. geriatrics, pediatrics), practice management or clinical research application. During this experience, students have the opportunity to function behaviorally as would professional physical therapists, with the exception that the clinical instructor is responsible for the student's provision of service and monitors the student's decision-making process during the examination, evaluation, diagnostic, prognostic and intervention components for patient care. Students are expected to function as part of a multi-disciplinary team, and participate in practice management activities. The specific content will vary depending upon the learning experiences available and the perceived or declared readiness of each student.

**PT 710 Health Systems Mgmt I 2 sem. hrs.**

The course is the first course addressing health care business management issues impacting physical therapy practice. Students are introduced to special topics related to access, cost and quality of care. Particular emphasis is on the United States Health Care delivery system, the continuum of care, reimbursement, interdisciplinary team management, direct access and autonomous practice.

**PT 711 Health Systems Mgmt II 2 sem. hrs.**

This course provides the student with an enhanced view of the healthcare system in the United States. The primary aim is to ensure that students are prepared to enter the healthcare system with an ability to contribute in the administration of contemporary and ethical physical therapist practice. The course includes requisite knowledge and application activities to develop an appreciation of healthcare reform, including a working understanding of its impact on PT as a practice, as well as a physical therapist's role in safety and risk reduction and care collaboration. The course will also address health IT/interoperability and its role in establishing value and efficiency in healthcare. Activities are included to enhance the learners' appreciation of a variety of health care professionals and their respective roles in modern interdisciplinary patient care within an overarching theme of leadership and impactful practice management.

**PT 712 Community Health in PT 3 sem. hrs.**

This course introduces the concept of community health care in relation to physical therapist practice. Physical therapist's role in health prevention, promotion and wellness across the lifespan in community based and non-traditional settings are addressed. Students develop a community health program that meets a community need to prepare them for their role as primary health care providers. Students also prepare for the role as a clinical teacher.

**PT 713 Service Project 1 sem. hr.**

A commitment to community service is an inherent part of the mission at Walsh University and the Physical Therapy program. Students provide direct community service as part of their academic experience within the physical therapy curriculum. During this course, students deliver the community program that was approved during semester 7 in conjunction with PT 712 Community Health in Physical Therapy.

**PT 720A Evidence Based Practice IA 1 sem. hr.**

This course will provide students with skills to integrate evidence-based practice into physical therapy professional practice. Students will explore the continuum of evidence and the research process, including ethical considerations related to clinical research. Skills related to formulating a clinical question, performing an effective search strategy, and interpreting scientific literature will be a central focus. Review of reliability and validity as important measures in making clinical decisions will be highlighted.

**PT 720B Evidence Based Practice IB 1 sem. hr.**

This course is designed to introduce students to higher level concepts related to statistical analysis. Students within the course will appreciate ethics related to research, be introduced to the interpretation of descriptive and inferential statistics, measurement validity and reliability, bias, as well as other statistical concepts. Students will apply their knowledge by initially being immersed in the research process through the initiation of an evidence-based project. This project will provide students with experience in application of the five steps of evidence-based practice with the oversight of a faculty mentor.

**PT 721A Evidence Based Practice IIA 2 sem. hrs.**

In this course, students will expand their knowledge related to evidence-based practice. Students will be exposed to meaningful clinical change, effect size, risk and odds ratios, correlation, regression, and a variety of other research designs. Methods of critical appraisal and inter-professional collaboration related to research will also be reviewed. This course further immerses students into their evidence-based project that allows them to apply the five steps of evidence-based practice. Students will continue to work on their evidence-based project that was initiated in PT720 with the intention of submitting it for dissemination to an external audience. Work on this project will continue throughout the following year..

**PT 721B Evidence Based Practice IIB 1 sem. hr.**

In this course, learners will expand their knowledge related to content applicable to their evidence-based project area. Students will be further immersed in their evidence-based project that allows them to learn about and apply the five steps of evidence-based practice. Work will continue on the project that was initiated in previous courses within this series, with specific focus on completing an appropriate literature review, conducting applicable methodology related to their project, analyzing the outcomes and planning for submission of dissemination for an external peer review of their work.

**PT 722 Evidence Based Practice III 1 sem. hr.**

This course teaches students to critically appraise and evaluate sources of evidence. Within this process, students will develop the ability to discern the applicability of study findings to specific patient populations and to the practice of physical therapy. This will contribute to the development of a deeper appreciation for evidence based and evidence informed practice.

**PT 723 Evidence Based Practice IV 1 sem. hr.**

This course is designed to culminate in a student's ability to present scholarly work in a professional, effective, and interesting manner. The course will discuss written, verbal, and demonstrative methods of disseminating evidence-based practice deliverables within professional venues. Students will complete the groups' evidence-based project and dissemination through formal peer review of their work.

**PT 730A PT Mgmt of Neuro Impair IA 3 sem. hrs.**

This course is the first within a series of three neurological courses presenting an integrated approach to relevant physiologic, anatomic, theoretical, medical, and therapeutic concepts related to entry-level neurologic physical therapist practice in both adult and pediatric populations. The three Physical Therapy Management of Neuromuscular Impairment courses will operate in a simple to complex trajectory and utilize a top-down model of learning. In this course the learner will gain knowledge, hands-on skills, and the clinical reasoning necessary to complete a comprehensive neuromuscular examination as it applies to general neurological patient populations. This foundational neurological examination will be differentiated and expanded upon during its application for disorders of the basal ganglia, concussion, and the peripheral vestibular system. The learner will also develop the skills necessary to create a comprehensive plan of care based on the current literature and best practice within the field of physical therapy.

**PT 730B PT Mgmt of Neuro Impair IB 4 sem. hrs.**

This course is the second within a series of three neurological courses presenting an integrated approach to relevant concepts related to entry-level neurologic physical therapy practice in adult and pediatric populations. The learner will study the pathology, examination, evaluation, diagnosis, and prognosis of patients with movement dysfunction secondary to common neurologic health conditions, including stroke, traumatic brain injury, multiple sclerosis, amyotrophic lateral sclerosis (ALS), central vestibular dysfunction, cerebral palsy, and brain tumor. Integrated classroom experiences that incorporate case study methodology and emphasize evidence-based practice will guide the learner in development of the necessary competencies for entry-level neurologic physical therapy practice.

**PT 731 PT Mgmt of Neuro-Mus Impair II 5 sem. hrs.**

This course is the third in a three-part neurological series, offering a comprehensive approach to the physiological, anatomical, medical, and therapeutic principles essential for entry-level neurologic physical therapy practice. It delves deeper into diagnoses along the neural axis, transitioning from central nervous system dysfunction to focus on peripheral nervous system disorders, including but not limited to cerebellar disorders, spinal cord injury, Guillain-Barré syndrome, and neuropathies. Students will further develop their clinical reasoning and critical thinking, refining their ability to conduct detailed neuromuscular assessments and create well-rounded intervention plans. These plans will integrate contemporary motor control and learning theories with restorative and compensatory strategies, including assistive technology and orthotics. Pediatric considerations are seamlessly integrated throughout the course.

**PT 732 PT Mgmt Multi System Impairment 4 sem. hrs.**

Many patients that Physical Therapists encounter often have multiple systems are impaired that ultimately affect their functional capabilities. This course integrates the many areas that have been discussed previously in the curriculum and aims to help the student focus their management strategies in the areas of medical screening and differential diagnosis. Complex patient cases involving multi-systems will be utilized throughout the course and the student will be responsible for demonstrating sound decision making processes based on best available evidence. In essence this course will help prepare the student physical therapist for autonomous practice.

**PT 734 PT Mgmt Cardio/Respir Impair I 4 sem. hrs.**

An integrated approach to the study of all relevant anatomic, physiologic, pathological, medical and therapeutic (invasive and surgical) concepts related to physical therapy practice in the area of cardiovascular, pulmonary, endocrine (diabetes) and integumentary impairments. The course includes commonly used physical therapy examination and therapeutic techniques and procedures, along with patient-care program development focused on the inpatient setting. Emphasis is placed on thorough review of medical history to help ensure safety during patient care.

**PT 735 PT Mgmt Cardio/Respir Impair II 5 sem. hrs.**

An integrated approach to the study of all relevant physiologic, anatomic, pathological, medical and therapeutic concepts related to physical therapy practice in the area of cardiovascular, pulmonary, integumentary, endocrine, hematology, immunology, oncology, genitourinary and gastrointestinal impairments. The course includes the physical therapy diagnostic process, physical therapeutic techniques and procedures, and patient-care program development. The course presents classroom and laboratory experiences building from simple to complex problems to assist the student in developing the competencies necessary for practice as a generalist in physical therapy. Experiences related to psychological, social, cultural, economic, and vocational aspects of illness and disability are included. Concepts are cumulative throughout the system(s) and continued enrollment depends upon mastery and use of previous concepts.

**PT 736 Capstone Seminar 2 sem. hrs.**

The capstone course provides opportunities for students to synthesize and integrate clinical and theoretical information from previous coursework. Students are expected to demonstrate competency in a comprehensive knowledge assessment examination to prepare them for the National Physical Therapist Examination (NPTE). Students reflect on achievement of expected program outcomes related to leadership, service and professional formation activities and develop a career development plan.

**PT 740 Special Topics 1 sem. hr.**

This elective course involves advanced study (beyond entry level) of selected examination and/or intervention techniques. Topics vary from semester to semester and from year to year.

**PT 741 PT Mgmt Birth-Early Adulthood 3 sem. hrs.**

This course is designed to provide an overview of general pediatric physical therapy practice, from birth through transition to early adulthood, including developmental parameters and legal historical perspectives. Content will include health conditions, impairments in body structure & function, activity limitations, and ultimately participation in life roles which include environmental and personal considerations among pediatric populations. The contextual basis of evidence-based practice across pediatric settings and within relevant pediatric and transition to adulthood service provision models will be explored.

**PT 742 PhyTherapy Mgmt of Aging Adult 2 sem. hrs.**

This course is designed to provide an overview of general physical therapy practice of aging adults. Content will focus on the stages of adult aging, including physiological and psychosocial changes experienced through the aging process, including death and dying. Content threads include applicable components of person-centered care relevant to contemporary physical therapy practice as well as exploration of evidence-based assessment and evaluation. Exploration of advocacy efforts and resources pertinent for designing physical therapy interventions and programs that address health and wellness needs.

**PT 743 Diagnostic Imaging 1 sem. hr.**

This course includes the study of the common diagnostic and therapeutic imaging studies such as radiographs, CAT, MRI, and musculoskeletal imaging as they pertain to patient/client management in physical therapy.