

**Physical Therapy Program Course Descriptions**  
**Mercer University**  
**College of Pharmacy and Health Sciences**

**Required Courses**

- PT 500. Gross Anatomy I (4 Hours)**  
(4 Credit Hours: 2 Lecture, 2 Lab)  
Gross Anatomy I provides the foundation for a comprehensive understanding of human morphology and the structural and functional relationships between tissues, organs, and joints of the upper body using lecture, problem solving, lab group collaboration, discussion, and cadaver dissection formats.
- PT 501. Applied Anatomy 1 (2 Hours)**  
(2 Credit Hours: 1 Lecture, 1 Lab)  
This course provides students with a comprehensive understanding of joint structure and function, musculoskeletal imaging, and the clinical assessment of tissues and joint integrity utilizing palpation skills and orthopedic special tests for the cervical spine and upper extremities.
- PT 502. Professional Development I: Professional Behaviors and Communication (3 Hours)**  
(3 Credit Hours: 3 Lecture, 0 Lab)  
Professional Development I is the first in a series of four courses designed to facilitate the achievement of professional practice expectations as a doctor of physical therapy. This particular course focuses on the profession's core values, communication, and ethics and jurisprudence.
- PT 503: Research I: Methods and Assessment (3 Hours)**  
(3 Credit Hours: 3 Lecture, 0 Lab)  
The first in a five-course research series, Methods and Assessment is designed to provide students with the knowledge and skills necessary to develop clinically relevant research projects and to critically evaluate the scientific literature to support evidence-based practice decisions for patients/clients.
- PT 504. Health Promotion Across the Lifespan (3 Hours)**  
**(3 Credit Hours: 1 Lecture, 2 Lab)**  
This course focuses on developing a foundation of basic health and wellness knowledge and skills to integrate into subsequent clinical science courses. The student will develop clinical skills to select, perform, and interpret selected tests and measures, and to design appropriate plans of care to improve health, wellness, and fitness across the lifespan.
- PT 508. Service-Learning I (1 Hour)**  
**(1 Credit Hour: 0 Lecture, 1 Lab)**  
This is the first of three service-learning courses in the curriculum. Incorporating service-learning principles (preparation, provision of community service, subsequent

reflection), students will participate in community-based activities related to prevention, health promotion, fitness, and/or wellness to participants in one of three lifespan categories (pediatric, adult, geriatric). Through the service-learning activities, students will achieve goals related to professional practice expectations (accountability, altruism, compassion/caring, communication, cultural competence) and patient/client management expectations (prevention, health promotion, fitness, and wellness; consultation; and social responsibility and advocacy).

**PT 510. Pharmacology and Systems Pathophysiology (3 Hours)**

(3 Credit Hours: 3 Lecture, 0 Lab)

This course will provide a solid foundation in pharmacology for integration of pharmaceutical management in subsequent patient/client management courses. This course will also develop the student's knowledge and comprehension of medical (both surgical and non-surgical) conditions that impact physical therapy examination, evaluation, intervention and outcomes through the lifespan.

**PT 530. Gross Anatomy II (4 Hours)**

(4 Credit Hours: 2 Lecture, 2 Lab)

Gross Anatomy II builds on the knowledge attained in Gross Anatomy I and continues providing the foundation for a comprehensive understanding of human morphology and the structural and functional relationships between tissues, organs, and joints in the lower body (diaphragm and inferior) using lecture, problem solving, lab group collaboration, discussion, and cadaver dissection formats.

**PT 531. Applied Anatomy 2 (2 Hours)**

(2 Credit Hours: 1 Lecture, 1 Lab)

This course provides students with a comprehensive understanding of joint structure and function, musculoskeletal imaging, and the clinical assessment of tissues and joint integrity utilizing palpation skills and orthopedic special tests for the thoracic spine, lumbar spine and lower extremities.

**PT 535. Management of Patients/Clients with Cardiovascular and Pulmonary Conditions (3 Hours)**

(3 Credit Hours: 2 Lecture, 1 Lab)

This course provides students with an anatomic and physiologic basis associated with cardiovascular and pulmonary conditions commonly seen in physical therapist practice. Students will learn evaluation, examination, diagnosis, prognosis, and management strategies including therapeutic interventions, which may be utilized by the healthcare professional team in rehabilitation of individuals with cardiovascular and pulmonary pathologies. The spectrum of cardiovascular and pulmonary diseases from primary prevention to secondary prevention and long term rehabilitation are covered.

**PT 536. Clinical Examination and Interventions I (4 Hours)**

(4 Credit Hours: 2 Lecture, 2 Lab)

Patient management skills in the areas of history taking, systems review, basic examination techniques, and functional mobility training are addressed in this course.

Students begin formulating clinical decision making skills to select, perform, and interpret selected tests and measures to design appropriate plans of care to improve functional mobility of patients/clients in a variety of settings.

**PT 539. Clinical Experience I (1 Hour)**

(1 Credit Hour: 0 Lecture, 1 Lab)

This course is the first of two integrated clinical education courses designed to introduce students to the variety of settings in which physical therapists practice and provide opportunities for students to apply foundational classroom learning. Potential environments include acute &/or intensive care, sub-acute care, long-term care, home health, outpatient clinics (neurologic, orthopedic, pediatric), inpatient rehabilitation, specialty clinics, and schools. Over the series of the two courses, students are expected to experience a minimum of 4 settings.

**PT 540: Foundational Musculoskeletal Sciences (3 Hours)**

(3 Credit Hours: 3 Lecture, 0 lab)

The physical stress theory will be used as a model to discuss tissue biomechanics, and the response of muscle, bone, joint and soft tissue to stress, injury and disease. The normal repair process and the effects of rest, stress, immobilization, and effects of nutrition, aging, and exercise will be discussed. A clinical reasoning model in orthopaedic physical therapy will be presented to integrate foundational musculoskeletal sciences into patient/client management classes

**PT 550. Neuroscience (3 Hours)**

(3 Credit Hours: 3 Lecture, 0 Lab)

This course will provide students with an understanding of the human nervous system with a focus on central nervous system structure and function in contrast to peripheral nervous system structure and function while introducing students to tests and measures that are used in clinical practice for both systems.

**PT 561. Movement Sciences (4 Hours)**

(4 Credit Hours: 2 Lecture, 2 Lab)

Investigation of movement science through the lifespan that incorporates motor control and learning theories is introduced with a focus on biomechanical principles related to human posture, and movement. Integrating biomechanical principles, observational analysis of functional movement tasks, normal and abnormal gait, and commonly seen movement impairments in physical therapist practice will be investigated.

**PT 562. Professional Development II: Health Care Systems and Policy (2 Hours)**

(2 Credit Hours: 2 Lecture, 0 Lab)

The second in a series of four courses, this course is designed to prepare students to achieve professional practice expectations as an entry-level Doctor of Physical Therapy. This course focuses on professional practice expectations of billing and coding and third party payer options, including Medicare, and Medicaid. Effective documentation for the patient/client management expectation of outcomes assessment will be highlighted.

**PT 563. Research II: Evidence-Based Practice (2 Hours)**

(2 Credit Hours: 2 Lecture, 0 Lab)

This course develops skilled and discriminating consumers of research for the purpose of providing evidence-based physical therapy services for health promotion, fitness, and wellness, and comprehensive patient/client management.

**PT 565. Management of Patients/Clients with Integumentary Conditions (2 Hours)**

(2 Credit Hours: 1 Lecture, 1 Lab)

In this course, students will develop skills in the delivery of physical therapy for the prevention and management of issues related to the integumentary system with an emphasis on patient examination, evaluation, diagnosis, prognosis, and intervention.

**PT 566. Clinical Examination and Interventions II (4 Hours)**

(4 Credit Hours: 2 Lecture, 2 Lab)

Students will continue learning how to select, perform and interpret selected tests and measures, design and perform appropriate plans of care to improve gait function in the home and in the community, examine and manage postural dysfunctions, and apply physical agents and therapeutic exercise to achieve targeted measurable outcomes, through the development of clinical reasoning and clinical decision making skills.

**PT 568. Service-Learning II (1 Hour)**

(1 Credit Hour: 0 Lecture, 1 Lab)

This is the second of three service-learning courses in the curriculum. Incorporating service-learning principles (preparation, provision of community service, subsequent reflection), students will participate in community-based activities related to prevention, health promotion, fitness, and/or wellness to participants in one of three lifespan categories (pediatric, adult, geriatric).

**PT 571. Differential Diagnosis (1 Hour)**

(1 Credit Hour: 1 Lecture, 0 Lab)

This course introduces the student to principles of differential diagnosis with emphasis on review of systems to identify conditions that warrant a medical referral. The process of referral to other healthcare professionals for appropriate patient/client management is introduced. Emphasis is placed on how to apply the information in clinical decision making by the physical therapist managing patients/clients with neuromusculoskeletal dysfunctions.

**PT 603. Research III: Critical Inquiry (2 Hours)**

(2 Credit Hours: 2 Lecture, 0 Lab)

Building on the principles introduced in Research I: Methods and Assessment, and Evidence-Based Practice, this second course in research, Critical Inquiry, will engage the student in aspects of a research project including, but not limited to IRB preparation, meta-analysis, data collection, data analysis, and manuscript preparation.

**PT 604. Geriatric Considerations in Patient/Client Management (3 Hours)**

(3 Credit Hours: 2 Lecture, 1 Lab)

This course will focus on the To prepare a physical therapist that can discriminate between normal and pathological multi-system changes associated with aging through adulthood, with an emphasis on the impact of these changes on physical therapist management of older adults. To integrate the principles and procedures for interview, examination, evaluation, diagnosis, prognosis, and intervention related to management of the geriatric patient/client as part of a multi-disciplinary team.

**PT 605. Management of Patients/Clients with Musculoskeletal Disorders I (3 Hours)**

(3 Credit Hours: 1 Lecture, 2 Lab)

This course will provide the learner with knowledge and skills in prevention, screening, and examination, evaluation, diagnosis, prognosis, and assessment of outcomes for a diverse patient/client populations with musculoskeletal dysfunctions (both surgical and non-surgical) in a variety of practice settings.

**PT 606. Interventions for Patients/Clients with Neuromusculoskeletal Conditions I (4 Hours)**

(4 Credit Hours: 2 Lecture, 2 Lab)

The student will learn intervention strategies for managing a plan of care for a diverse population of patients/clients with neuromusculoskeletal dysfunctions in a variety of practice settings across the lifespan. Joint and soft tissue mobilization, therapeutic exercise progressions, proprioceptive neuromuscular facilitation, electrotherapeutic interventions aquatics, wheelchair seating and other appropriate intervention strategies will be incorporated into patient/client management strategies for neuromusculoskeletal conditions.

**PT 609. Clinical Experience II (1 Hour)**

(1 Credit Hour: 0 Lecture, 1 Lab)

This course is the second of two integrated clinical education courses designed to introduce students to the variety of settings in which physical therapists practice and provide opportunities for students to apply foundational classroom learning. Potential environments include acute &/or intensive care, sub-acute care, long-term care, home health, outpatient clinics (neurologic, orthopedic, pediatric), inpatient rehabilitation, specialty clinics, and schools. Over the series of the two courses, students will be expected to experience a minimum of 4 settings. During Clinical Experience II, students will have experiences in different settings than those they participated in during Clinical Experience I.

**PT 615. Management of Patients/Clients with Neuromuscular Conditions I (3 Hours)**

(3Credit Hours: 1 Lecture, 2 Lab)

This course will focus on neuromuscular conditions associated with impaired motor function and sensory integrity associated with progressive disorders of the CNS, and

impaired motor function, peripheral nerve integrity and sensory integrity associated with non-progressive disorders of the spinal cord through the lifespan.

**PT 616. Interventions for Patients/Clients with Neuromusculoskeletal Conditions II: Prosthetic and Orthotics (2 Hours)**  
**(2 Credit Hours: 1 Lecture, 1 Lab)**

The ability to provide efficient and effective post-operative, non-prosthetic and prosthetic management for individuals after upper and/or lower extremity amputation for vascular and non-vascular/traumatic conditions will be addressed. Students will develop the skills required to develop and implement comprehensive plans of care for those patients utilizing prostheses, including comprehensive gait analysis and gait training. Students will be able to prescribe appropriate orthoses as a member of the orthotic team, evaluate fit and function of orthoses, and implement a comprehensive plan of care for those patients utilizing orthoses through the lifespan.

**PT 633. Research IV: Research Intensive (2 Hours)**  
**(2 Credit Hours: 1 Lecture, 1 Lab)**

Building on the principles of research methods and assessment, evidence-based practice, and critical inquiry, the student will continue with active engagement in aspects of a research project including, but not limited to IRB preparation, meta-analysis, data collection and analysis and manuscript preparation.

**PT 634. Pediatric Considerations in Patient/Client Management (4 Hours)**  
**(4 Credit Hours: 2 Lecture, 2 Lab)**

The student physical therapist will develop with clinical skills to select, perform, and interpret selected tests and measures, and to design appropriate plans of care for the pediatric client.

**PT 635. Management of Patients/Clients with Musculoskeletal Conditions II (3 Hours)**  
**(3 Credit Hours: 1 Lecture, 2 Lab)**

This course will build upon the knowledge, skills and behaviors learned in musculoskeletal I to integrate classification systems approaches into the examination, evaluation, diagnoses, prognosis, and outcomes for a diverse population for patients/clients with musculoskeletal conditions and the consideration of special patient populations and post-surgical management of spinal conditions.

**PT 636. Interventions for Patient/Clients with Neuromusculoskeletal Conditions III (4 Hours)**  
**(4 Credit Hours: 2 Lecture, 2 Lab)**

This course will prepare the student to provide increasingly complex intervention strategies for managing a plan of care for a diverse population of patients/clients with neuromusculoskeletal dysfunctions in a variety of practice settings across the lifespan, including but not limited to, thrust/non-thrust manipulation, myofascial trigger point dry needling, women's health, rehab technology and complex regional pain syndromes

**PT 638. Service-Learning III (1 Hour)**

(1 Credit Hours: 0 Lecture, 1 Lab)

This is the last of three service-learning courses in the curriculum. Incorporating service-learning principles (preparation, provision of community service, subsequent reflection), students will participate in community-based activities related to prevention, health promotion, fitness, and/or wellness to participants in one of three lifespan categories (pediatric, adult, geriatric).

**PT 644. Psychosocial Considerations in Patient/Client Management (3 Hours)**

(3 Credit Hours: 3 Lecture, 0 Lab)

Students will gain a deeper understanding of the concepts and principles essential to the successful comprehensive management of the patient/client living with a chronic illness, pain, and/or disability. The ICF model of functioning, disability, and health will serve as the foundation of the course, as the patient/client's personal, family, socioeconomic, culture, environment, and activities will be considered. Psychiatric disabilities will also be discussed.

**PT 645. Management of Patients/Clients with Neuromuscular Conditions II (3 Hours)**

(3 Credit Hours: 1 Lecture, 2 Lab)

This course will focus on conditions associated with impaired neuromotor development, impaired motor function, and sensory integrity associated with non-progressive disorders of the CNS, acute or chronic polyneuropathies acquired through the lifespan.

**PT 669. Clinical Internship I (12 Hours)**

(12 Credit Hours: 12 Lab)

The first of three 12-week clinical education courses, this series is designed to give students full-time experiences in a variety of settings representative of those commonly seen in practice. Students will be required to have three different clinical experiences in regard to patient/client management (eg. lifespan, continuum of care), and clinical practice areas (eg: orthopaedic, neuromusculoskeletal, integumentary, and cardiovascular/pulmonary)]. Over the 3 course series, students are expected to show improvement in the level of performance, ultimately reaching that of an "entry-level" physical therapist. The expected level of performance at the conclusion of this experience is "Intermediate" as defined by the APTA's Clinical Performance Instrument.

**PT 702. Professional Development III: Management (2 Hours)**

(2 Credit Hours: 2 Lecture, 0 Lab)

The third in a series of four courses designed to prepare students to achieve professional practice expectations as an entry-level Doctor of Physical Therapy, this particular course focuses on the business and management of providing physical therapy services in a variety of traditional and non-traditional settings.

**PT 703. Research IV: Translation (1 Hour)**

(1 Credit Hours: 1 Lecture, 0 Lab)

Research translation is the culmination of the student's active involvement in a research project. The student will present, either individually or in a small group, the results of their research project at a local, state or national meeting or prepare their findings in a manuscript format for peer review.

**PT 709      Clinical Internship II      (12 Hours)**

(12 Credit Hours: 0 Lecture, 12 Lab)

The second of three 12-week clinical education courses, this series is designed to give students full-time experiences in a variety of settings representative of those commonly seen in practice. Students will be required to have three different clinical experiences in regard to patient/client management (eg. lifespan, continuum of care), and clinical practice areas (eg: orthopaedic, neuromusculoskeletal, integumentary, and cardiovascular/pulmonary)]. Over the 3 course series, students are expected to show improvement in the level of performance, ultimately reaching that of an "entry-level" physical therapist. The expected level of performance at the conclusion of this experience is "Advanced Intermediate" as defined by the APTA's Clinical Performance Instrument.

**PT 732.      Professional Development IV: Leadership      (12 Hours)**

(2 Credit Hours: 2 Lecture, 0 Lab)

This is the final course in a series of four courses designed to prepare students to achieve professional practice expectations as an entry-level doctor of physical therapy. This particular course focuses on leadership principles and styles, and strategies for staying active in the American Physical Therapy Association and its components as well as other organizations to facilitate life-long professional development.

**PT 737.      Comprehensive Review      (1 Hour)**

(1 Credit Hours: 1 Lecture, 0 Lab)

Comprehensive examination will be given to measure the effectiveness of the curriculum for the student's ability to be prepared to sit for the national licensing examination.

**PT 739.      Clinical Internship III      (12 Hours)**

(12 Credit Hours: 0 Lecture, 12 Lab)

The last of three 12-week clinical education courses, this series is designed to give students full-time experiences in a variety of settings representative of those commonly seen in practice. Students will be required to have three different clinical experiences in regard to patient/client management (eg. lifespan, continuum of care), and clinical practice areas (eg: orthopaedic, neuromusculoskeletal, integumentary, and cardiovascular/pulmonary)]. Over the 3 course series, students are expected to show improvement in the level of performance, ultimately reaching that of an "entry-level" physical therapist. The expected level of performance at the conclusion of this experience is "Entry-level" as defined by the APTA's Clinical Performance Instrument.