

# Physical Therapy (PT)

**PT 1000. College: An Introduction. 1 Hour.**

Provides an introduction to the University, college, and health professions to enhance students' understanding of self and the decisions they make academically and socially as members of the University's diverse, multicultural community. Group activities and individual assignments along with active participation in a learning community help students adjust to life on an urban campus, develop a better understanding of the learning process, acquire essential academic skills, and make connections with the faculty and students in the college.

**PT 1880. Introduction to Sports Medicine. 4 Hours.**

Offers an introductory course intended for students interested in sports, coaching, medicine, and exercise. Exposes students to the field of sports medicine. Emphasizes orthopedic anatomy, exercise principles, and a basic introduction to prevention of injury and illness related to athletes. Includes a cadaveric lab and lectures.

**PT 1990. Elective. 1-4 Hours.**

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

**PT 2000. Professional Development Co-op. 1 Hour.**

Introduces the Bouvé Cooperative Education Program. Offers students an opportunity to develop job-search and career-management skills. Students perform assessments of their workplace skills, interests, and values and discuss how they impact personal career decisions. Offers students an opportunity to prepare a professional-style résumé, learn proper interviewing techniques, and gain an understanding of the opportunities available to them for co-op. Introduces career paths, choices, and career decision making. Familiarizes students with workplace issues relative to their field of study and presents the MyNEU COOL database in the job-search and referral process. Presents and discusses co-op policies, procedures, and expectations of the Bouvé Cooperative Education Program and co-op employers.

**PT 2990. Elective. 1-4 Hours.**

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

**PT 3990. Elective. 1-4 Hours.**

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

**PT 4990. Elective. 1-4 Hours.**

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

**PT 4992. Directed Study. 1-4 Hours.**

Offers independent work under the direction of members of the department on a chosen topic. Course content depends on instructor. May be repeated without limit.

**PT 4996. Experiential Education Directed Study. 1-4 Hours.**

Draws upon the student's approved experiential activity and integrates it with study in the academic major. Restricted to those students who are using it to fulfill their experiential education requirement. May be repeated without limit.

**PT 5101. Foundations of Physical Therapy. 3 Hours.**

Introduces basic patient-care procedures and professional behaviors used in physical therapy practice. Prepares students for co-op education experiences and discusses implications for career planning.

**PT 5102. Lab for PT 5101. 1 Hour.**

Accompanies PT 5101. Covers topics from the course through various experiments.

**PT 5111. Professional Development for Bouvé Graduate Co-op. 1 Hour.**

Introduces graduate students to the Bouvé Cooperative Education Program and offers an opportunity to develop job-search and career-management skills. Students perform assessments of their workplace skills, interests, and values and discuss how they impact personal career decisions. Offers students an opportunity to prepare a professional-style résumé, learn proper interviewing techniques, and gain an understanding of the opportunities available to them for co-op. Introduces career paths, choices, and career decision making. Seeks to familiarize students with workplace issues relative to their field of study and to teach them to use myNEU COOL database in the job-search and referral process. Presents and discusses co-op policies, procedures, and expectations of the Bouvé Cooperative Education Program and co-op employers.

**PT 5131. Gross Anatomy. 4 Hours.**

Covers the structure and function of the human body with particular emphasis on the skeletal, muscular, nervous, and cardiovascular systems and clinical application to these systems. Considers basic abnormalities of structure and function. Involves lectures, cadaver prosection, osteology, and surface anatomy labs.

**PT 5132. Lab for PT 5131. 1 Hour.**

Accompanies PT 5131. Covers topics from the course through various activities.

**PT 5133. Kinesiology. 3 Hours.**

Studies normal movement through the analysis of muscle and joint function. Introduces fundamental examples of pathokinesiology, aberrant motions, and postures. Emphasizes analysis of the major joints and regions of the body as related to the field of physical therapy, including aspects of gait analysis. Encourages critical thinking and integrates material learned in prior course work, including, but not limited to, anatomy and physiology.

**PT 5134. Lab for PT 5133. 1 Hour.**

Offers students an opportunity to measure skills of goniometry and manual muscle testing to assess joint mobility and muscle performance. Also covers assessment of posture and gait. Integrated with PT 5133 and builds upon the foundation of gross anatomy.

**PT 5138. Neuroscience. 4 Hours.**

Covers the structure and physiological function of the human nervous system with emphasis on the clinical aspects of motor and somatosensory systems. Studies the anatomy of the brain, brain stem, and spinal cord in specimens and on slides and integrated with the basic physiology of motor and sensory systems. The application of neuroscience to clinical neurological cases is a foundation of this course.

**PT 5139. Lab for PT 5138. 1 Hour.**

Accompanies PT 5138. Covers topics from the course through various experiments.

**PT 5140. Pathology. 4 Hours.**

Covers foundational knowledge of pathological processes of major body systems. Addresses general medicine, laboratory medicine, and pathophysiology as related to patient conditions that impact physical therapy management. Case-based discussion allows for integration of pathology and pharmacology content.

**PT 5141. Recitation for PT 5140. 0 Hours.**

Provides small-group discussion format to cover material in PT 5140.

**PT 5145. Introduction to the Healthcare System. 2 Hours.**

Offers students an opportunity to obtain the foundation to understand and appreciate the framework of the U.S. healthcare system. Compares other selected global healthcare systems. Examines historical events, policy changes, and current issues that impact the delivery of healthcare services.

**PT 5150. Motor Control, Development, and Learning. 4 Hours.**

Covers three broad areas—motor control, motor development, and motor learning. Examines neural, behavioral, and physical mechanisms that contribute to the control of movement in humans. Focuses on motor control in healthy persons, with some discussion of alterations associated with musculoskeletal and neural impairment. Addresses motor development and maturation from intrauterine life through old age (senescence). Considers the interaction of body-system development and growth on acquisition of and changes in typical skill development. Examines factors that influence the learning of new motor skills (motor learning) as a result of practice.

**PT 5151. Lab for PT 5150. 1 Hour.**

Offers students an opportunity to apply knowledge gained in PT 5150 to activities designed to illustrate various principles and concepts related to motor control, motor development, and motor learning. Uses a series of guiding questions/activities in each laboratory and analyzes associated literature to offer students an opportunity to apply class concepts to healthy individuals and to those with clinical problems related to motor control, motor development, or motor learning.

**PT 5160. Psychosocial Aspects of Healthcare. 3 Hours.**

Examines interpersonal relationships among patients, families, health professionals, and society, with reference to the impact of and reaction to illness and disability. Identifies personal and societal beliefs, values, and attitudes that affect the role of people with illness or disabilities in our culture and the healthcare system; how patients' beliefs, values, and experiences affect their expectations and interactions with healthcare professionals; and how beliefs, values, and experiences shape professional development and affect relationships with patients.

**PT 5161. Psychosocial Aspects of Healthcare Seminar. 1 Hour.**

Offers students an opportunity to engage in hands-on service roles and address the needs/interests of community partners. Students also have an opportunity to reflect on their learning through service during on-campus and online activities/assignments.

**PT 5165. Sports Medicine: Managing the Injured Athlete. 4 Hours.**

Offers students an opportunity to obtain in-depth knowledge in sports medicine. Covers taping and bracing procedures and techniques to assess concussions with various current protocols. Exposes students to current common pathologies within the athletic population. Discusses return-to-play criteria for an athlete once an injury has occurred and has subsequently been treated and rehabilitated.

**PT 5209. Neurological Rehabilitation 1. 4 Hours.**

Covers the foundations of the physical therapy examination, evaluation, and intervention with patients with neurological deficits. Presents examination skills, theoretical bases, and clinical applications of integrated intervention approaches for the patient with a neurological diagnosis. Includes the etiology, pathology, and physical therapy management of common neurological disorders affecting the pediatric population.

**PT 5210. Lab for PT 5209. 1 Hour.**

Accompanies PT 5209. Covers topics from the course through various experiments.

**PT 5226. Physical Therapy Professional Seminar 2. 2 Hours.**

Continues PT 5135 and builds on concepts introduced in the earlier course. Affords students the opportunity to reflect on issues in experiential education and prepare for future experiential learning.

**PT 5227. Physical Therapy Project 1. 3 Hours.**

Provides students with the opportunity to conduct an independent project under the mentorship of physical therapy faculty in areas such as research, education, clinical practice, administration, or service learning.

**PT 5229. Physical Therapy Project 2. 2 Hours.**

Provides students with a continued opportunity to work with individual faculty on scholarship activities to create a scholarly work in partial fulfillment of the requirement for a Doctor of Physical Therapy degree. Allows students to continue the research or education project that was initiated in PT 5227. Guides students as necessary to enable them to complete their capstone project.

**PT 5230. Pediatric and Geriatric Aspects of Life Span Management. 3 Hours.**

Incorporates analysis and comparison of methods of physical therapy (PT) management of selected populations across the life span, which includes pediatrics and geriatrics. Focuses on utilizing evidenced-based rationale for clinical decision making within the context of PT examination, evaluation, PT diagnosis, prognosis, and plan of care. Discusses how patient/client management seeks to reflect core professional values, as well as topics of prevention and wellness in these patient populations.

**PT 5410. Functional Human Neuroanatomy. 4 Hours.**

Examines the detailed structure of the human nervous system, linking structure to function at both the clinical and neurobiological level. Offers students an opportunity to obtain a solid functional anatomical foundation for neuroscience. Reviews basic neuroanatomy and then provides a detailed look into the structure of the nuclei within the central nervous system and their connectivity. Examines the role of these structures in motor and sensory function as well as in complex cognitive functions at a physiological and clinical level.

**PT 5411. Lab for PT 5410. 1 Hour.**

Examines the detailed structure of the human nervous system in specimens of the human brain and spinal cord as well as in images of stained sections of these tissues and magnetic resonance images (MRI). The structure of individual nuclei and the main sensory and motor tracts of the nervous system are examined and discussed by students working in small groups. Although focusing on anatomical details, the lab introduces the student to clinical diagnosis of neurological cases.

**PT 5450. Introduction to Therapeutic Activities. 2 Hours.**

Offers students an opportunity for exposure to the biologic underpinnings of therapeutic activities, as well as to increase their skill in the application of such activities, including exercise prescription, therapeutic handling skills, and functional activity design. Skills taught in this course shape interventions used in the physical therapy treatment of people across the life span with a variety of impairments of body structure, function, and functional activity limitations.

**PT 5500. Pharmacology for Physical Therapy. 2 Hours.**

Offers a clinically oriented course covering knowledge of clinical pharmacology in the physical therapy profession. Discusses prescription and over-the-counter drugs and common herbal supplements. Drug classification, pharmacokinetics, pharmacodynamics, mechanism of action, drug interactions, and common side effects are brought into the clinical perspective of patient management. Explores recognition of expected drug effects, side effects, idiosyncratic reactions, and signs of abuse or nonadherence. Along with PT 5140, emphasizes the therapist's proper incorporation of pharmacotherapeutic knowledge into patient assessment, differential diagnosis, and design of treatment regimens.

**PT 5503. Cardiovascular and Pulmonary Management. 4 Hours.**

Discusses physical therapy examination evaluation, interventions, and outcome assessment of common cardiac and pulmonary dysfunctions. Discusses etiology and pathology of common cardiac and pulmonary disorders. Uses case-based learning to promote synthesis of the material.

**PT 5504. Lab for PT 5503. 1 Hour.**

Accompanies PT 5503. Covers topics from the course through various experiments.

**PT 5505. Musculoskeletal Management 1. 4 Hours.**

Discusses physical therapy examination evaluation, interventions, and outcome assessment of common musculoskeletal dysfunctions. Uses case-based learning to promote synthesis of the material.

**PT 5506. Lab for PT 5505. 1 Hour.**

Accompanies PT 5505. Covers topics from the course through various experiments.

**PT 5515. Integumentary Systems and Advanced Modalities. 2 Hours.**

Applies anatomy, physiology, epidemiology, and pathology to explore the issues of medical, surgical, pharmacological, and psychological and physical therapy management of individuals throughout the life span with integumentary system impairments. Provides students with the opportunity to develop examination skills to derive diagnoses, prognoses, evaluations, and effective physical therapy interventions based on relevant evidence. Builds on information from PT 5104 to include electrophysiological testing and interpretation. Uses case studies to integrate the information learned in class.

**PT 5516. Lab for PT 5515. 1 Hour.**

Accompanies PT 5515. Covers topics from the course through various experiments.

**PT 5540. Clinical Integration 1: Evidence and Practice. 2 Hours.**

Designed to prepare physical therapy students to integrate previous courses taught in the curriculum to safely manage patients in the acute-care setting, including the intensive-care unit, the critical-care unit, and step-down settings. Uses a combination of lecture, instruction in the simulation center, and standardized patient interactions. Follows the "Guide to Physical Therapy Practice for Evaluation and Intervention" in these settings. Offers students an opportunity to learn to perform an examination; to evaluate examination data to formulate a plan of care; to provide interventions; to determine a discharge plan for individuals in the acute-care environment; and to demonstrate core professional values in classroom, recitation, and standardized patient interactions.

**PT 5600. Ergonomics and the Work Environment. 3 Hours.**

Builds upon the public health definition that ergonomics is the applied science that optimizes overall human-systems performance and well-being within the work environment. Emphasizes a public health approach suited for healthcare professionals building on their strengths and training in analytical diagnostic skills and interventions, ranging from primary to tertiary approaches. Covers topics including epidemiology, job hazard analysis, and intervention methods and research. Offers students an opportunity to obtain the knowledge and skills to improve the physical ergonomic factors in a workplace in order to increase the health and well-being of workers.

**PT 5601. Project for PT 5600. 1 Hour.**

Focuses on a project to accompany PT 5600.

**PT 5610. Workplace Wellness and Health Promotion. 3 Hours.**

Focuses on the skills needed to create, implement, and evaluate workplace health promotion and injury prevention programs. Studies the National Institute of Occupational Safety and Health's (NIOSH) essential elements of workplace health programs, utilizing and reviewing the literature in support of these essential elements throughout the semester. Workplace factors have strong associations with the health and health behaviors of workers. Builds upon basic wellness and organizational ergonomic principles to offer students an opportunity to develop the skills needed and to obtain the knowledge of the work environment and health promotion.

**PT 5611. Project for PT 5610. 1 Hour.**

Builds on PT 5610. Focuses on understanding the development of workplace health promotion and injury prevention programs and delves deeper into material covered in PT 5610 with additional readings and a final project.

**PT 5710. Psychosocial Aspects of Disability. 4 Hours.**

Explores the psychological, social, and cultural factors that underlie responses and adaptations to chronic illness and disability by individuals and families. Offers a foundation for nonjudgmentally ascertaining and supporting clients' needs. Includes coping needs and strategies that are used by those without complicating factors, as well as those that may be used by individuals who have comorbid conditions such as psychiatric disorders; substance abuse; or cultural, gender, or age differences. Presents best practices on interviewing skills, assessment, and interventions to support the needs of people affected by chronic illness or disability.

**PT 5976. Directed Study. 1-4 Hours.**

Offers independent work under the direction of members of the department on a chosen topic. Course content depends on instructor. May be repeated without limit.

**PT 6000. Leadership, Administration, and Management. 2 Hours.**

Offers students an opportunity to develop the ability to analyze and evaluate changes in the healthcare system, health policy, and the impact on the delivery of services with a focus on physical therapy. Appraises key business and management concepts, including personnel, insurance, finance, marketing, productivity, and financial and legal regulations within the context of ethical practice. Emphasizes and examines leadership concepts in the areas of advocacy, legislation, and the promotion of the profession.

**PT 6215. Assistive Technology. 3 Hours.**

Studies theory and current practice in the use of prosthetics, orthotics, and assisted-living devices.

**PT 6216. Lab for PT 6215. 1 Hour.**

Accompanies PT 6215. Covers topics from the course through various experiments.

**PT 6221. Neurological Rehabilitation 2. 4 Hours.**

Focuses on the physical therapy management of adults with neurological dysfunctions. Concentrates on management of functional activity limitations, participation restrictions, and impairments resulting from neurological disease and/or trauma. Offers students an opportunity to learn about the etiology, pathology, clinical signs, and medical management of adults with neurological disorders; to learn to perform an examination, evaluate the examination data to formulate a plan of care, and provide interventions; and to use evidence-based decision making.

**PT 6222. Lab for PT 6221. 1 Hour.**

Accompanies PT 6221. Covers topics from the course through various experiments.

**PT 6223. Musculoskeletal Management 2. 4 Hours.**

Provides an in-depth analysis of musculoskeletal management. Compares intervention protocols as an integral component of this course. Allows, in the lab component, for practical application of spinal joint mobilization, modalities, ergonomic assessment, functional training, and therapeutic exercise. Uses case-based learning to promote synthesis of the material.

**PT 6224. Lab for PT 6223. 1 Hour.**

Accompanies PT 6223. Covers topics from the course through various experiments.

**PT 6233. Advanced Physical Therapy Topics in Orthopedics. 2 Hours.**

Provides students with an opportunity to obtain in-depth knowledge in orthopedics and physical therapy. Course topics vary each semester offered. Topics are determined by significant events and changes in the field. This course may be taken more than once, as long as topics are different. May be repeated without limit.

**PT 6237. Advanced Special Topics in Physical Therapy. 2 Hours.**

Provides students with an opportunity to obtain in-depth knowledge in a specific physical therapy topic area. Course topics vary each semester offered. Topics are determined by significant events and changes in the field. This course may be taken more than once, as long as topics are different. May be repeated without limit.

**PT 6241. Screening for Medical Conditions in Physical Therapy Practice. 4 Hours.**

Designed to prepare physical therapy students to recognize the signs and symptoms of medical conditions and adverse drug reactions as they relate to patient examination and to triage appropriately. Emphasizes screening for medical conditions with the goal of recognizing red, yellow, and green flags as they relate to patient care. Stresses medical referral to other healthcare practitioners in an efficient and effective manner.

**PT 6243. Health Education, Promotion, and Wellness. 3 Hours.**

Covers health promotion, wellness, disease, impairment, functional limitations, disability, and health risks. Offers students an opportunity to explore their consultative role to business, schools, government agencies, and other organizations.

**PT 6244. Recitation for PT 6243. 0 Hours.**

Provides small-group discussion format to cover material in PT 6243.

**PT 6250. Clinical Integration 2: Evidence and Practice. 2 Hours.**

Offers students an opportunity to practice demonstrating core professional values in classroom, recitation, and standardized patient interactions and to learn how to skillfully manage complex patients across the life span and across practice patterns in a variety of clinical settings. Integrates evidence-based content from previous courses in the curriculum. Introduces special topics in physical therapy, including bariatric care, home care, and hospice.

**PT 6251. Diagnostic Imaging. 3 Hours.**

Designed to integrate diagnostic imaging principles and techniques relevant to physical therapy practice. Reviews commonly used diagnostic imaging techniques and discusses clinical case studies in a case-based online course.

**PT 6441. Clinical Education 1. 6 Hours.**

Provides students with opportunities to practice examination, evaluation, and intervention skills previously learned in the classroom and on co-op. Students work under the supervision and guidance of a licensed physical therapist.

**PT 6442. Clinical Education 2. 6 Hours.**

Continues PT 6441. Provides students with additional opportunities to practice examination, evaluation, and intervention skills learned in the classroom and during the previous course. Students are expected to function at a higher level requiring less supervision and guidance from a licensed physical therapist than was needed during their first clinical education experience.

**PT 6448. Clinical Education 3. 9 Hours.**

Designed to provide students with the opportunity to meet entry-level requirements to practice as physical therapists. Supervised and guided by a licensed physical therapist, students practice examination, evaluation, intervention, documentation, and administrative skills and are expected to function at the level of a new graduate by the completion of this experience. Includes a written assignment. Helps students, through reflection of what they have learned, identify who they are as professionals, establish early career goals, and provide insight for the need to be a lifelong learner.

**PT 6962. Elective. 1-4 Hours.**

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

**PT 6964. Co-op Work Experience. 0 Hours.**

Provides eligible students with an opportunity for work experience.

**PT 6978. Independent Study. 1-4 Hours.**

Offers independent work under the direction of members of the department on a chosen topic. Course content depends on instructor. May be repeated without limit.