PHYSICAL THERAPY — D.P.T. (ENTRY LEVEL), D.P.T. (POSTPROFESSIONAL), PH.D.

Physical therapists are highly educated, licensed health-care professionals who provide services to patients/clients with impairments, disabilities, or changes in physical function and health status as a result of injury, disease, or other causes.

Physical therapists teach patients how to prevent injury or disability and manage conditions to achieve long-term health benefits. They examine each individual and develop a plan, using treatment techniques to promote the ability to move, reduce pain, restore function, and prevent disability. In addition, physical therapists work with individuals to prevent the loss of mobility before it occurs by developing fitness- and wellness-oriented programs for healthier and more active lifestyles.

Physical therapists provide care for people in a variety of settings, including hospitals, private practices, outpatient clinics, home-health agencies, schools, sports and fitness facilities, work settings, and skilled nursing facilities. State licensure is required in each state in which a physical therapist practices.

In addition to the Associate in Science degree (PTA, found in the previous section of the CATALOG), the program options within the Department of Physical Therapy include:

- Entry-level Doctor of Physical Therapy.
- Postprofessional Doctor of Physical Therapy.
- Doctor of Philosophy.

Programs

- Physical Therapy — D.P.T. (Entry Level) (http://llucatalog.llu.edu/allied-health-professions/physical-therapy/dpt-entry-level/), D.P.T. (Postprofessional) (http://llucatalog.llu.edu/allied-health-professions/physical-therapy/dpt-postprofessional/), Ph.D. (http://llucatalog.llu.edu/allied-health-professions/physical-therapy/phd/)

Courses

PHTH 501. Neurology I. 3 Units.
Physical therapy management of individuals with balance and vestibular disorders resulting in impairments, functional limitations, and disabilities. Emphasizes application and integration of theoretical constructs, evidence-based practice, examination, evaluation, diagnosis, prognosis, intervention, and outcome measurements.

PHTH 502. Neurology II. 3 Units.
Physical therapy management of individuals with neurological disorders (including stroke, traumatic brain injury, multiple sclerosis, Parkinson's disease) resulting in impairments, functional limitations, and disabilities. Emphasizes application and integration of theoretical constructs, evidence-based practice, examination, evaluation, diagnosis, prognosis, intervention, and outcomes measurement.

PHTH 503. Neurology III. 3 Units.
Physical therapy management of individuals with spinal cord injury, Guillain-Barre Syndrome, and Amyotrophic Lateral Sclerosis resulting in impairments, functional limitations, and disabilities. Emphasizes application and integration of theoretical constructs, evidenced-based practice, examination, evaluation, diagnosis, prognosis, intervention, and outcomes measurement.

PHTH 504. Neurology IV. 2 Units.
Continues development of critical thinking and refinement of previously learned neurologic patient management skills, and introduces new content supporting neurologic physical therapy practice.

PHTH 505. Integrated Clinical Experience. 1 Unit.
A year-long course that provides the students—assisted by faculty and clinical therapist—experience with mock and real patients. Emphasis is on critical thinking related to assessment, safety, and treatment progression. Course incorporates didactic education into practical application.

PHTH 506. Exercise Physiology. 3 Units.
Addresses physiologic, metabolic, circulatory, and structural adaptations, responses, and interactions that occur during acute and chronic exercise. Includes body fat analysis and risk of disease in the obese client. Applies tests and measures to concepts and applications of exercise prescriptions.

PHTH 508. PT Communication and Documentation. 2 Units.
Introduces principles and dynamics of professional verbal and written communication, including use of electronic health records and the ICF model. Emphasizes skills required in a clinical setting for effective communication with third-party payors, health-care professionals, and patients. Includes quality and legal considerations in documentation of evaluations, progress notes, daily notes, discharge summaries, and letters of justification.

PHTH 509. Biophysical Agents. 3 Units.
Fundamental principles, physiological effects, and application techniques in the use of biophysical agents, including thermotherapy, cryotherapy, hydrotherapy, ultrasound, and electrotherapy procedures. Manual modalities, including massage techniques, myofascial and trigger point release. Lecture and laboratory.

PHTH 510. Kinesiology. 3 Units.
Fundamental principles of joint and muscle structure and function related to the development of treatment strategies for the physical therapist. Analyzes and applies the biomechanics of normal and pathological movement of the human body. Functional anatomy of the musculoskeletal system, including palpatory techniques for bone, ligament, and muscle.

PHTH 511. Clinical Orthopaedics. 2 Units.
Introduces the practice of orthopedic physical therapy, utilizing the movement system and ICF framework to gain a comprehensive understanding of the evaluation components in creating an effective plan of care. Explores tissue injury and healing, principles of loading and unloading tissue, orthopedic disorders, surgeries, and clinical manifestations. Focuses on clinical decision-making with orthopedic interventions and appropriate application of post-surgical protocols.

PHTH 512. Clinical Psychiatry. 2 Units.
Introduces mental and personality disorders. Reviews abnormal behaviors commonly found in a clinical setting.

PHTH 513. Therapeutic Procedures. 3 Units.
Blood pressure determination and aseptic techniques. Principles and utilization of posture and body mechanics. Selection and use of wheelchairs, ambulation aids, and other equipment. Progressive planning toward complete activities of daily living.

PHTH 514. Manual Muscle Testing. 3 Units.
Methods of evaluating muscle strength and function using specific and gross manual muscle tests. Integrates manual muscle testing with other aspects of patient care. Live patient demonstrations and discussion regarding each patient. Lecture, demonstration, and laboratory.

PHTH 516. Histology. 2 Units.
Surveys fundamental tissues (epithelial, connective, muscle, and nervous) and the histopathology of selected diseases, including changes in bone and cartilage.

PHTH 517. Movement Science. 2 Units.
An integrative approach to movement impairment and neuromuscular approaches in the evaluation and management of musculoskeletal pain syndromes. Identifies clinical reasoning and examination of movement patterns. Extensive laboratory practice with patient/case studies.

PHTH 518. Aspects of Health Promotion. 2 Units.
Dynamics of physical therapy involvement in health promotion for the individual and the community. Factors in the promotion of a healthful lifestyle, including cardiovascular enhancement, stress reduction and coping mechanisms, nutritional awareness, weight management, and substance control. Students design and implement community-based health education program.

PHTH 519. Locomotion Studies. 3 Units.
Basic and advanced observational analysis of normal and abnormal human locomotion in adults. Compares differences in gait impairments at each joint and at different stance/swing phases. Use of assessment tools and clinical reasoning in the attributes and interventions of normal and abnormal gait characteristics. Basic pathological and soft tissue impairments to gait cycle. Correlates energy expenditure to gait.

PHTH 521A. Orthopaedics 1A. 3 Units.
Discusses physical therapy examination, evaluation, and interventions relevant to the clinical management of musculoskeletal conditions of the upper extremities. Presents instruction related to orthopaedic physical therapy interventions—including joint mobilization, hand splinting, and other selected manual techniques for specific upper extremity musculoskeletal conditions. Utilizes lecture, laboratory, and case studies to develop and integrate these concepts.

PHTH 521B. Orthopaedics 1B. 3 Units.
Students further develop concepts of examination, differential diagnosis, prognosis, and interventions that are expanded to patients with musculoskeletal conditions of the lower extremities. Utilizes lecture, laboratory, and case studies to develop and integrate these concepts.

PHTH 522. Orthopaedics II. 3 Units.
Evidence-based theory of spinal examination, evaluation, and physical therapy intervention. Expanded principles of functional anatomy, tissue and joint biomechanics, pathology, and treatment. Differentiates causes of neck and head pain—including temporomandibular joint disorders, myofascial pain dysfunctions, and cervicogenic headaches.

PHTH 523. Orthopaedics III. 3 Units.
Evidence-based theory of lumbopelvic, lumbar and thoracic spine examination, evaluation, and physical therapy intervention. Expanded principles of functional anatomy, tissue and joint biomechanics, pathology, and treatment. Differentiates etiology of lumbar, lumbopelvic, and thoracic pain.

PHTH 524. Psychosocial Aspects of Health Care. 2 Units.
Addresses psychological and sociological response to illness, trauma, and/or disability, taking into consideration the individual and the extended family.

PHTH 525. General Medicine. 3 Units.
An understanding of medical and surgical disorders for the physical therapist. Basic pathology and/or etiology and clinical manifestations. Medical treatment for conditions within selected specialties of: endocrinology, arthritis, oncology, and integumentary management.

PHTH 526A. Cardiopulmonary I. 3 Units.
Anatomy and physiology of the cardiovascular system as applied to patient management. Physical therapy management of patients diagnosed with cardiac diseases and complications. Identifies disease processes, including definition, etiology, pathophysiology, clinical presentation, and the clinical course of cardiac conditions. Analyzes and examines ECGs of various forms with basic interpretation. Includes lecture and laboratory.

PHTH 526B. Cardiopulmonary II. 3 Units.
Normal anatomy and physiology of the pulmonary system as applied to physical therapy management. Medical and physical therapy management of patients diagnosed with pulmonary diseases and complications. Analyzes arterial blood gases in a systematic manner and relates findings to the disease and ventilatory process. Discusses PFTs for obstructive and restrictive diseases. Includes lecture and laboratory.

PHTH 528. Therapeutic Exercise I. 3 Units.
Introduces basic exercise techniques used in the practice of physical therapy. Techniques include, ROM, stretching/flexibility, joint mobilization, muscle performance (including strength, power, and endurance), and aquatic rehabilitation.

PHTH 530. Therapeutic Exercise II. 3 Units.
Formulation and implementation of exercise prescriptions based on impairments and protocols. Opportunities to design treatment progressions for the extremities. Emphasizes spinal stabilization approaches for the axial skeleton.

PHTH 534. Soft Tissue Techniques. 2 Units.
Physical therapy evaluation and treatment-planning strategies for individuals with orthopedic dysfunction primarily related to soft tissue injury resulting in pathology, impairments, functional limitations, and disabilities. Emphasizes laboratory hands-on application and integration of theoretical constructs, evidenced-based practice, examination, evaluation, intervention, and measurement of outcomes.

PHTH 539. Integrative Physiology. 4 Units.
Physiology of the human body, including integumentary, skeletal, muscular, neuronal, cardiovascular, respiratory, endocrine, digestive, urinary, and reproductive physiology.

PHTH 540. Concepts of Acute Care. 2 Units.
Presents procedures, equipment, lines and tubes, medications, and treatments used while treating adult and pediatric patients in the acute care setting. Covers ICU, NICU, and CCU using current research on mobilization and improving function. Identifies roles of multidisciplinary team members managing critical care patients.

PHTH 544. Professional Formation I. 1 Unit.
Engages students in a transformative journey of professional identity formation, vital for success in academia and the clinic. Focuses on research-backed elements like resilience, adaptability, self-reflection, emotional intelligence, lifelong learning, communication, conflict management, and resume-building. Emphasizes ethical integrity and APTA's Core Values. Empowers students with self-assessment and mindset skills needed for leadership.

PHTH 545. Professional Formation II. 3 Units.
Advanced study of the management of orthopaedic disorders of the extremities. Includes biomechanics, examination, and intervention relevant to the clinical management of the cervical spine and shoulder complexes—with emphasis on refining the upper-quarter screening examination. Clinical course that strengthens student's knowledge and application of mobilization techniques to the joints and nerves of the periphery. Lecture, laboratory sessions, and case studies.

PHTH 554. Professional Formation II. 1 Unit.
Empowers students in their ongoing journey of professional identity formation. Includes cultural humility, bias recognition and mitigation, advanced interviewing techniques, feedback-seeking, and growth mindset development. Enhances self-awareness, communication skills, and becoming culturally responsive health-care professionals, aligning with industry recommendations.

PHTH 555. Medical Screening. 2 Units.
Emphasizes information gathering from history taking, review of systems, and directed questioning—combined with a focused examination to establish a working diagnosis. Emphasizes clinical pattern recognition for both musculoskeletal and nonmusculoskeletal disorders. Students learn strategies to differentiate between musculoskeletal and nonmusculoskeletal disorders. Highlights knowledge and skills related to screening for medical pathology.

PHTH 557. Pediatrics I. 3 Units.
Examines typical sequential human development observed throughout prenatal, infant, toddler, and childhood periods, in the context of physical therapy; and provides an introduction to atypical development. Emphasizes observation of motor development and learning, and identification and documentation of movement for both the typically and atypically developing child.

PHTH 558. Pediatrics II. 3 Units.
Discussion, demonstration and practice of physical therapy assessment and treatment of pediatric clients with developmental disabilities. Select diagnoses will be studied including cerebral palsy, spina bifida, muscular dystrophy and torticollis, as well as other common impairments. Specific treatment interventions will be practiced including pediatric NDT, sensory processing, orthotic assessment, positioning and handling for the treatment of the pediatric client.

PHTH 559. Geriatrics. 2 Units.
Overview of the normal and pathological changes seen during the aging process as related to physical therapy. Includes theories and demographics of aging, physiological and psychosocial changes, principles of geriatric rehabilitation, pharmacology, orthopedic considerations, fall risk, and fall prevention.

PHTH 561. Physical Therapy Administration. 2 Units.
Principles of organization and administration in health-care delivery. Multidisciplinary approach to patient management and patient-therapist relations. Administration of physical therapy services. Professionalism, medicolegal considerations, supervision and training of support personnel. Departmental design and budgetary considerations.

PHTH 563. Research I. 2 Units.
Introduction to research methods and measurement principles, applied to assessing and interpreting information sources to support patient/client management decisions fundamental to evidence-based practice.

PHTH 564. Research II. 1 Unit.
Assessment and interpretation of information sources, evaluating outcomes related to a specific clinical question for purpose of writing an evidenced-based practice literature review.

PHTH 565. Research III. 1 Unit.
Assessment and interpretation of information sources, evaluating outcomes related to a specific clinical question for purpose of developing professional poster and oral presentations.

PHTH 566. Pathology. 4 Units.
Fundamental mechanisms of disease, including cell injury, inflammation, repair, fluid disorders, neoplasms; developmental, genetic, pediatric, immune, infectious, physical, dietary, blood, vascular, and heart diseases.

PHTH 568. Integrative Neueroanatomy. 4 Units.
Basic anatomy and function of the central, peripheral, and autonomic nervous systems and related structures. Gross anatomy of the brain and spinal cord. Functional consideration of cranial nerves, tracks, and nuclei of major systems. Lecture, slides, and laboratory with specimens, models, and exercises.

PHTH 569. Clinical Neurology. 2 Units.
Introduces the practice of neurologic physical therapy. Emphasizes neurologic disorders routinely encountered by physical therapists and their clinical manifestations. Presents components of the neurologic physical therapy examination.

PHTH 571. Short Clinical Experience I. 2 Units.
Four-week, forty clock hours per week, supervised short clinical experience (SCE) that introduces students to a variety of physical therapy practice settings, and allows them to begin applying and utilizing physical therapy clinical and professional skills learned during the first year of the DPT curriculum.

PHTH 572. Short Clinical Experience II. 2 Units.
A four-week, forty clock hours per week, clinical education experience. Students apply and practice knowledge and skills learned in general medicine, neurologic, orthopedics, and preventive care/wellness as they relate to patients across the life span. Supervision by a licensed physical therapist. Includes direct patient care, as well as possible participation in specific site team conferences, demonstrations, special assignments, and observation.

PHTH 575. Orthopaedics IV. 1 Unit.
A three-quarter course that integrates examination procedures taught in the orthopaedic curriculum. Culminates in a comprehensive laboratory practical that includes the five elements of patient/client management, as described in the Guide to Physical Therapy Practice: examination, evaluation, diagnosis, prognosis, and intervention.

PHTH 586. Orthotics and Prosthetics. 2 Units.
Clinical reasoning in the attributes and interventions of normal and abnormal gait characteristics based on the field of orthotics and prosthetics. Instruction with various types of orthotics and prosthetics in order to collaborate with O&P clinicians and patients in locomotion rehabilitation.

PHTH 587. Pharmacology. 2 Units.
Introduction to general principles of pharmacology, including actions of commonly used medications on physiological processes related to physical therapy.

PHTH 595. Clinical Imaging. 3 Units.
Covers the various types of imaging used in clinical practice. Educates the future practitioner on the strong and weak points of each type of imaging, what that type of imaging is used for, and how the process is completed start to finish. Covers conventional x-ray, CAT scan, MRI, and MSK ultrasound. Laboratory portion familiarizes the student with MSK ultrasound, including its application and the general interpretation of the image produced.

PHTH 596. Orthopaedics V. 3 Units.
Presents the newest evidenced-based clinical evaluation and treatment applications over the spectrum of the patient population in the field of physical therapy. Emphasizes the specialized area of orthopedic physical therapy.

PHTH 597. Specialized Interventions in Physical Therapy. 2 Units.
Provides advanced study opportunities to pursue, in greater depth, various topics related to current trends in physical therapy and development of advanced clinical skills, where appropriate. Topics include: women's/men's health, lymphedema, wound care, and other specialized areas in physical therapy.

PHTH 701. Long Clinical Experience I. 5 Units.
Ten-week, full-time (40 hours/week average) clinical education assignment for D.P.T. students completed in an affiliated clinic with an emphasis in any of a variety of settings including: acute care, outpatient orthopedics, neurological rehabilitation, geriatrics, pediatrics, sports medicine, and preventive care/wellness.

PHTH 702. Long Clinical Experience II. 5 Units.
Eleven-week, full-time (40 hours/week average) clinical education assignment for D.P.T. students completed in an affiliated clinic with an emphasis in any of a variety of settings including: acute care, outpatient orthopedics, neurological rehabilitation, geriatrics, pediatrics, sports medicine, and preventive care/wellness. This is the second of three required affiliations in the final year of the program.

PHTH 703. Long Clinical Experience III. 5 Units.
Ten-week, full-time (40 hours/week average) clinical education assignment for DPT students completed in an affiliated clinic with an emphasis in any of a variety of settings including: acute care, outpatient orthopedics, neurological rehabilitation, geriatrics, pediatrics, sports medicine, and preventive care/wellness. This is the final of three required affiliations in the final year of the program.