

# PHYSICAL THERAPY (DPT)

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## **DPT 5000 Introduction to Physical Therapist Practice – 3 credits**

This course introduces the student to the scope and history of physical therapist practice. The APTA Vision statement and Core Values will be key documents studied and discussed in this course. A model of physical therapy patient/client management will be introduced, with focus on skills that are essential for success in the field, such as accessing research literature, communication skills (including documentation), group work and teaming skills, professional behaviors, critical thinking and learning skills, cultural competence, leadership, and dealing with legal/ethical issues. A broad overview of the neuromuscular and musculoskeletal systems will be provided and study of the basic physiological principles relevant to the science of PT will be initiated. Anatomical foundations for understanding, describing, and assessing human movement will be introduced. Students will develop skills in observing normal movement and begin to appreciate deviations from normal. Functional assessment will be introduced, as students learn the range of tests and measures available to physical therapists. Students will be oriented to and will begin integrated clinical education (ICE). The course will conclude with a full day Leadership Symposium and White Coat Ceremony, at which time DPT students will take the Student Physical Therapist Oath.

**Prerequisite:** Acceptance to the DPT Program; DPT Program prerequisite coursework.

## **DPT 5010 Outpatient Physical Therapy I – 6 credits**

This course integrates the basic sciences of anatomy, kinesiology, tissue biomechanics, muscle physiology and pathology with clinical skills pertaining to shoulder and elbow examination, evaluation and intervention in the outpatient orthopedic setting. Students practice application of physical therapy skills within the patient management model. Examination skills include observation, goniometry, manual muscle testing, palpation and special tests for the shoulder girdle and elbow. Interventions include basic massage techniques, physical agents, and an introduction to therapeutic exercise. Course content will emphasize the importance of sound psychometric properties of various outcome measures with the emphasis on measuring upper extremity function. Students will learn appropriate documentation using different formats. Students receive an introduction to pharmacology principles and medical screening. Learning activities will include lecture, lab, tutorial and case-based learning, student presentations and small group work. This course expands on the professional roles of the physical therapist in an outpatient setting.

**Prerequisite:** DPT 5000.

## **DPT 5025 Acute Care I – 6 credits**

This course provides students with an introduction to acute care clinical practice. Included in this course are topics related to the clinical anatomy and kinesiology of the hip and knee, especially as they relate to degenerative joint disease and potential subsequent total joint procedures. Related to this, students learn manual muscle testing, goniometry, sensory and proprioceptive testing, muscle length testing, special testing of the hip and knee and assessment of a patient's functional mobility, as these skills are essential to a typical acute care examination. Cadaver dissection of the hip and knee is also an integral part of coursework. The primary pathologies covered in this course are hip arthroplasty, hip fractures and total knee arthroplasty. Students are instructed in infection control procedures, as well as in measuring vital signs. Students also learn how to interpret and begin to make clinical decisions about basic lab values, vital signs, infection control, post surgical complications, and surgical lines and tubes. The application of the basic concepts of normal gait, as well as patient handling skills such as gait training and transfers are taught and assessed. By the end of the course, the students will apply and integrate appropriate tests and measures to perform an initial PT examination for a patient in an acute-care setting.

**Prerequisite:** DPT 5010.

## **DPT 5035 Outpatient Physical Therapy II – 7 credits**

This course is a continuation of the study of physical therapist practice in the outpatient setting with an emphasis on cervical and lumbar spine, SI joint, forearm and wrist. The course contains an in-depth study of the peripheral nervous system, including both neuro-anatomy and neuro-physiology. Focus is on clinical issues of neck, low back, and forearm pain, as well as peripheral neuropathies. This course highlights the integration of orthopedic and neurologic concepts. Students will learn examination and intervention techniques for the related clinical issues. Students learn how to locate and assess literature regarding the validity of various diagnostic and screening tests for peripheral nerve lesions and apply their findings to clinical cases. Neuromuscular electrical stimulation for muscle contraction and pain management is introduced.

**Prerequisite:** DPT 5025.

## **DPT 5040 Rehabilitation I – 6 credits**

This course introduces students to physical therapy practice in the neurologic rehabilitation setting with an emphasis on the clinical management of patients with a diagnosis of CVA. Students are exposed to pathology, pharmacologic intervention and physical therapy tests and measures specific to this population. Basic neurorehabilitation intervention techniques are also introduced. Knowledge of relevant functional anatomy and kinesiology of the foot and ankle as well as examination and intervention for foot and ankle pathology are developed in this course. In addition, students explore the structure and function of the central nervous system, normal and pathological gait, experimental design, evidence-based practice and business practice principles related to health care system change.

**Prerequisite:** DPT 5035.

**DPT 5055 Transitional Care I – 7 credits**

This course introduces physical therapy management of patients/clients as they transition from acute to post-acute care settings, with a focus on PT examination, evaluation and intervention for the cardiac, pulmonary, and integumentary systems. The effects of aging on body systems are introduced in this course, specifically examining the effects on connective tissue, the cardiopulmonary systems, and the integumentary system. Exercise physiology principles in the areas of cardiac and pulmonary testing, resistance exercise and aerobic exercise are used throughout the course and are applied to the adult population across the lifespan. The medical screening process is introduced. The student will also learn the process, structure, and expectations of full-time clinical experiences in preparation for DPT 5070: Clinical Education I. Problem solving strategies for maximizing clinical learning will be discussed. The course will culminate in a comprehensive oral/practical exam, requiring the student to integrate, synthesize, and apply knowledge and skills acquired throughout the first year of the DPT curriculum in order to perform a patient examination and treatment in a simulated clinical environment.

**Prerequisite:** DPT 5040.

**DPT 5070 Clinical Education I – 6 credits**

Successful completion of a healthcare professional level course in Cardiopulmonary Resuscitation. Provide proof of immunizations as outlined in the DPT Clinical Education Handbook. Completion of state of Minnesota Background Study. Compliance with background study requirements for state in which student is assigned, if other than Minnesota. Compliance with any additional requirements of assigned clinical site, which may include drug testing or a national background check. Basic knowledge of HIPAA regulations. The student must carry health insurance (student is responsible for cost). Completion of Student Clinical Education Contract. Successful completion of the PT CPI Web training module (APTA website, Learning Center). Completed contact with assigned site prior to clinical experience. Completed requirements as stipulated by the assigned site prior to clinical experience. Read the site's Clinical Site Information Form (CSIF).

**Prerequisite:** DPT 5055.

**DPT 6000 Acute Care II – 6 credits**

This course will review and expand on the gross and microscopic anatomy and physiology of the heart, lungs, kidney, liver, and immune systems. Selected cardiac, renal, hepatic, and immune system pathologies will be covered. Physical therapy, for patients with the above conditions involving advanced acute care management/intervention issues will be the focus of the course. Discharge planning from this setting is considered and home care physical therapy and outpatient cardiac rehabilitation are covered. Concepts of wellness and health promotion will be introduced and a community based health and wellness event will be planned. Management concepts including organizational structure and outcomes measurement will be addressed.

**Prerequisites:** DPT 5055, DPT 5070.

**DPT 6015 Rehabilitation II – 6 credits**

This course builds upon the content in DPT 5040 Rehabilitation I by advancing students' knowledge and skills as they relate to physical therapy practice in the rehabilitation setting. Pathology, pharmacologic intervention and clinical management of adult patients with neurologic conditions such as traumatic brain injury, spinal cord injury and Parkinson's disease are addressed. In addition, the course integrates a deepened understanding of the central nervous system with an emphasis on the structure and function of the spinal cord, brain stem, basal ganglia and cerebellum. Content related to psychosocial issues, documentation, selected statistical tests, neuroplasticity and motor learning is also included.

**Prerequisite:** DPT 6000.

**DPT 6025 Transitional Care II – 5 credits**

This course builds upon DPT 5055: Transitional Care I by addressing physical therapy patient/client management of the older adult in the long-term care, subacute, assisted living, and outpatient settings. Theories of aging and the effects of normal aging on the neuromuscular and integumentary systems are introduced. Effects of normal aging on the cardiopulmonary system and musculoskeletal systems are expanded upon from DPT 6000 and DPT 5055. Concepts of and issues related to successful aging, frailty, sexuality, polypharmacy, nutritional needs, and residential care of older adults are covered. Topics include dementia/Alzheimer's disease, vestibular dysfunction (BPPV), balance/falls, wellness/prevention, osteoporosis, and administration issues (compliance, financial performance, restraints). Connective tissue disorders are defined and rheumatoid arthritis is studied. The neuroscience of emotion, cognition, and the limbic system; fundamentals of teaching/learning theory; and design of a teaching presentation are included. Multiple sclerosis is presented and integrated with issues of aging. Reimbursement systems (Medicare) are addressed, as is evidence-based practice with regard to selected functional outcome measures. Research topics include epidemiology, reliability, chi square and kappa.

**Prerequisite:** DPT 6015.

**DPT 6030 Rehabilitation III – 4 credits**

This course will introduce the student to the medical and physical therapy management of patients who have undergone amputation of an upper or lower extremity. Principles of biomechanics as they relate to components of gait and orthotic/prosthetic interventions are addressed. Peripheral vascular disease, as a common cause of amputation will be emphasized, along with other pathologies that commonly lead to wounds. This course will apply clinical decision making and use of interventions specific to the healing of wounds of various etiologies. This course also introduces health policy and professional advocacy as well as advocacy for social issues that impact population health.

**Prerequisite:** DPT 6025.

**DPT 6040 Outpatient Physical Therapy III – 7 credits**

This course will build upon knowledge and skills from DPT 5010 DPT 5030. DPT 6040 will cover a greater breadth of topics with advanced scope and greater complexity relevant to physical therapy practice in the outpatient care setting. Pathology and management of patients with musculoskeletal impairments will be central to this course. Common conditions of the cervical spine, lumbar spine, sacroiliac joint, lower extremity and upper extremity will be addressed in detail, including pathomechanics, key history and examination findings, physical therapy intervention, and medical management for each condition. Practical application of knowledge and skills is a focus of this course, including utilization of case studies, advanced therapeutic exercise program design and case-based tutorials. Additional major topics include arthrology with cadaver joint dissection, peripheral and spinal joint mobilization/manipulation, soft tissue mobilization, health care administration and health care outcomes, ethics in health care and medical screening/differential diagnosis.

**Prerequisite:** DPT 6030.

**DPT 6055 Clinical Education II – 7 credits**

Successful completion of a healthcare professional level course in Cardiopulmonary Resuscitation. Provide proof of immunizations as outlined in the DPT Clinical Education Handbook. Completion of state of Minnesota Background Study. Compliance with background study requirements for state in which student is assigned, if other than Minnesota. Compliance with any additional requirements of assigned clinical site, which may include drug testing or a national background check. Basic knowledge of HIPAA regulations. The student must carry health insurance (student is responsible for cost). Completion of Student Clinical Education Contract. Successful completion of the PT CPI Web training module (APTA website, Learning Center). Completed contact with assigned site prior to clinical experience. Completed requirements as stipulated by the assigned site prior to clinical experience. Read the site's Clinical Site Information Form (CSIF).

**Prerequisite:** DPT 6040.

**DPT 6060 Pediatrics – 6 credits**

This course focuses on the physical therapy management of children from birth to 21 who require rehabilitation services. Basic concepts of genetics as well as normal embryonic and fetal development provide a foundation for learning about typical versus atypical development in children. Common pediatric diagnoses, family-centered services, state and federal laws related to delivery of services and ethical issues associated with pediatric physical therapy are addressed. In addition, as part of the research/evidence-based practice thread, content related to qualitative research is integrated into this course.

**Prerequisites:** DPT 6040, DPT 6055.

**DPT 6682 Directed Study – 2 credits**

Directed study is provided for students whose unusual circumstances prohibit taking a regularly scheduled course but who need the material of that course to satisfy a requirement. Availability of this faculty-directed learning experience depends on faculty time and may be limited in any given term and restricted to certain courses.

**Prerequisites:** Faculty, department chair and dean approval.

**DPT 6686 Directed Study – 6-8 credits**

Directed study is provided for students whose unusual circumstances prohibit taking a regularly scheduled course but who need the material of that course to satisfy a requirement. Availability of this faculty-directed learning experience depends on faculty time and may be limited in any given term and restricted to certain courses.

**Prerequisites:** Faculty, department chair and dean approval.

**DPT 6687 Directed Study – 7 credits**

Directed study is provided for students whose unusual circumstances prohibit taking a regularly scheduled course but who need the material of that course to satisfy a requirement. Availability of this faculty-directed learning experience depends on faculty time and may be limited in any given term and restricted to certain courses.

**Prerequisites:** Faculty, department chair and dean approval.

**DPT 6997 Topics – 7 credits****DPT 7000 Research Project Credits I – 2 credits**

By participation in a research or case report group the student will make the transition from consumer of research to producer of research. The student is required to review, integrate and apply knowledge of research principles from the first and second years of the curriculum. Taking into account student preferences, the student will be assigned to either a) a faculty-led research project group, or b) a case report research group. The focus of DPT 7000 Research Project Credits I is on searching peer-reviewed medical databases to locate research articles relevant to a research project or case report, analyzing and interpreting these articles, integrating the findings, and synthesizing and summarizing the results in written form. Students will be required to develop and demonstrate skills in scientific writing using the American Medical Association (AMA) format for references.

**Prerequisite:** DPT 5055.

**DPT 7040 Research Project Credits II – 2 credits**

This course focuses on the process of data collection, followed by analysis, interpretation and synthesis of results. Students will learn and practice oral presentations skills. This course will culminate in the public presentation of research results in front of an audience of peers, faculty and clinicians.

**Prerequisite:** DPT 7000.

**DPT 7100 Complex Medical and Trauma Care – 5 credits**

This course will advance the student's knowledge and skill in the medical and physical therapy management of patients with complex trauma and/or medical conditions. Patients with burns, cancer and involvement of multiple systems (musculoskeletal, cardiopulmonary, neuromuscular and/or integumentary) will be the focus of the course. Issues of mental illness and chemical dependency will also be addressed. The students' clinical decision-making skills in complex case scenarios will be assessed through group presentations, group papers and an individual paper.

**Prerequisite:** DPT 6060.

**DPT 7126 Advanced Clinical Practice I – 4 credits**

This course is the first of two advanced practice courses that emphasize comprehensive integration and application of knowledge and skills gained from previous outpatient and rehabilitation courses in the DPT curriculum. The course focuses on the physical therapy management of patients who have cumulative trauma/stress injuries, especially related to occupational injuries, and the management of clients with neurologic diagnoses both across the lifespan and care continuum. Pathology and management of patients with vestibular conditions and concussion, hand therapy, ergonomics, Workers Compensation rules/regulations, and psychophysiological responses to stress are among the topics addressed. In addition, further specific musculoskeletal topics will be covered including chronic pain. Practice Management projects will be presented as part of this course.

**Prerequisite:** DPT 7100.

**DPT 7135 Advanced Clinical Practice II – 3 credits**

This course is the second of two advanced practice courses that emphasize comprehensive integration and application of knowledge and skills gained from previous outpatient and rehabilitation courses in the DPT curriculum. The course focuses on the physical therapy management of clients with neurologic diagnoses both across the lifespan and care continuum and orthopaedic conditions with special emphasis on sports medicine applications. Use of motor control theory, motor learning principles and current evidence to support and guide care plans will be emphasized. Rehabilitation will be situated in context through discussion of health care reform and its impact on health care organizations, the physical therapy profession, and physical therapists.

**Prerequisite:** DPT 7126.

**DPT 7136 Advanced Clinical Practice II – 4 credits**

This course is the second of two advanced practice courses that emphasize comprehensive integration and application of knowledge and skills gained from previous outpatient and rehabilitation courses in the DPT curriculum. The course focuses on the physical therapy management of clients with neurologic diagnoses both across the lifespan and care continuum and orthopedic conditions with special emphasis on sports medicine application. Use of motor control theory, motor learning principles and current evidence to support and guide care plans will be emphasized. Rehabilitation will be situated in context through discussion of health care reform and its impact on health care organizations, the physical therapy profession, and physical therapists.

**Prerequisite:** DPT 7126.

**DPT 7145 Clinical Education III – 7 credits**

Successful completion of a healthcare professional level course in Cardiopulmonary Resuscitation. Provide proof of immunizations as outlined in the DPT Clinical Education Handbook. Completion of state of Minnesota Background Study. Compliance with background study requirements for state in which student is assigned, if other than Minnesota. Compliance with any additional requirements of assigned clinical site, which may include drug testing or a national background check. Basic knowledge of HIPAA regulations. The student must carry health insurance (student is responsible for cost). Completion of Clinical Education Student Contract. Successful completion of the PT CPI Web training module (APTA website, Learning Center). Completed contact with assigned site prior to clinical experience. Completed requirements as stipulated by the assigned site prior to clinical experience. Read the site's Clinical Site Information Form (CSIF).

**Prerequisite:** DPT 7126.

**DPT 7155 Clinical Education IV – 7 credits**

Successful completion of a healthcare professional level course in Cardiopulmonary Resuscitation. Provide proof of immunizations as outlined in the DPT Clinical Education Handbook. Completion of state of Minnesota Background Study. Compliance with background study requirements for state in which student is assigned, if other than Minnesota. Compliance with any additional requirements of assigned clinical site, which may include drug testing or a national background check. Basic knowledge of HIPAA regulations. The student must carry health insurance (student is responsible for cost). Completion of Clinical Education Student Contract. Successful completion of the PT CPI Web training module (APTA website, Learning Center). Completed contact with assigned site prior to clinical experience. Completed requirements as stipulated by the assigned site prior to clinical experience. Read the site's Clinical Site Information Form (CSIF).

**Prerequisite with concurrency:** DPT 7136.

**DPT 7165 Ethics and Leadership Summit – 3 credits**

This course has two components: 1) an immersion service learning (community work and learning) experience and 2) an integrative seminar experience in which the students will synthesize their prior coursework in physical therapy practice, health care ethics, clinical education, and service learning experiences. Students receive didactic preparation for the experiential service learning component the week prior to the immersion experiences. Using an active learning approach to ethical and servant-leadership issues, the seminar component will develop depth in applying theory and decision-making procedures to clinical, ethical, and social issues. Through small group work, discussion, and an 'ethics around the lunch table' experience, the students will be challenged to demonstrate leadership in developing strategies for implementing ethical decisions within institutions, private practice, in professional organizations, and in the formation of public policy. The student will engage in focused reflection on his/her learning during the DPT Program and will draft a professional development and leadership plan. Issues related to transitioning from the student to the professional role, will be explored through discussion with peers, clinicians, and DPT faculty.

**Prerequisite with concurrency:** DPT 7155.

**DPT 7661 Topics – 1 credit****DPT 7991 Topics – 1 credit****DPT 8000 Research Project Credits III – 2 credits**

This course will require students to complete a scholarly paper in AMA style, based on the research presentation completed for DPT 7040. This paper will include an abstract, an updated review of the relevant literature, detailed methods, a report of the relevant results/outcomes, discussion of the findings and final conclusions. The quality of the project and written report must be such that it has the potential for submission for publication and/or presentation at a professional conference.

**Prerequisite:** DPT 7040.