

# COURSE DESCRIPTIONS

(See Key to Symbols on Page 53)

## *ENTRY-LEVEL DOCTOR OF PHYSICAL THERAPY*

Enrollment in any course in the Physical Therapy curriculum requires admission and full-time participation in the professional phase of the Physical Therapy program and satisfactory completion of all professional coursework preceding the offering or permission of both the Instructor of Record and Department Chair.

### **PTG 105 Introduction to Pathology of Human Disease (3)**

Pathology is the study of disease with emphasis on the structural alterations in tissues and organs, and metabolic alterations caused by disease. A proper foundation in the understanding of pathology is essential for the understanding the diagnosis and treatment diseases. This course presents the fundamentals of understanding the major diseases of humans, the organization of which is presented first in fundamental processes, then directing attention to approach of the major organ systems of the body.

### **PTD 310 Human Anatomy (7)**

Regional and comprehensive study of the human body with an emphasis on the back, thorax and extremities. Developmental anatomy, surface anatomy and radiologic anatomy segments are included. The course utilizes lecture, dissection laboratories, and discussion formats.

### **PTD 312 Professional Development Seminar I (1)**

Professional Development Seminar I is an introduction to the discipline of Physical Therapy. Students learn about the development of the profession and other issues related to Jesuit mission, values, service, practice and education. Students will be introduced to the *Guide to Physical Therapist Practice*, documentation, reflective critical thinking, portfolio development, and professional Core and Care abilities. Students will also initiate the process of facility site selection for clinical education experiences.

### **PTD 314 Professional Development Seminar II (1)**

This is the second of a six-course sequence threading every semester of the didactic curriculum. The Professional Development sequence is designed to provide a forum for introduction, development and mastery of essential skills needed to function as a physical therapy professional. This course continues the discussion of themes related to professional formation and development, reflection, evidence-based practice, professional responsibility, learning, and inter-professional health care. Themes will be expanded and developed during subsequent semesters. In addition, students will broaden their experience-base learning through personal engagement with a variety of local communities, and by exploring opportunities for service within the profession. Students will also demonstrate a synthesis of knowledge acquired from all course work to date by assessment on a final comprehensive examination.

### **PTD 315 Histology (3)**

An overview of the cells, tissues and organs that make up the human body. The emphasis is on those types of cells and tissues that are most relevant to the practice of physical therapy including the connective tissues, muscle and nerve. Relevant research articles will be introduced throughout the semester. The course utilizes lecture, laboratory and discussion formats.

### **PTD 319 Kinesiology/Pathomechanics I (4)**

Study of selected anatomical, structural, and functional properties of human connective tissues, muscular tissues, nervous tissues, and skeletal structures. Emphasis will be placed on mechanical, neuroregulatory, and muscular influences upon normal and pathological motion.

### **PTD 320 Human Neurobiology (3)**

An overview of the development, structure and function of the human nervous system. While this course is designed to be an introduction to the field of neurobiology the emphasis of this course is on the motor and sensory systems. Research material will be introduced throughout the semester. The course utilizes lecture, laboratory and discussion formats.

**PTD 324 Physical Therapy Interventions I (1)**

This course is the first of a three-part sequence introducing the student to the basic interventions fundamental to the practice of physical therapy. These interventions include patient handling skills, safe and effective patient care techniques, transfers, gait training, and massage. A case-based approach will be utilized to teach clinical skills in the laboratory.

**PTD 328 Motor Control and Motor Learning (3)**

This course emphasizes the integration of the neuroscience underlying the clinical practice related to assisting a client regain motor control. It is the link between Human Neurobiology and Neuromuscular Physical Therapy. The scientific foundation of the theories of motor control and motor learning are used to discuss a systems theory of motor control, and task-oriented approach to examination and intervention of postural control, mobility, and reach, grasp and manipulation disorders covering the lifespan. By means of lectures, independent learning experiences, small group discussions, and case presentation, students are introduced to a conceptual framework for their clinical practice.

**PTD 329 Kinesiology/Pathomechanics II (4)**

A continuation of PTD 319. Study of selected anatomical, structural, and functional properties of human connective tissues, muscular tissues, nervous tissues, and skeletal structures. Emphasis will be placed on mechanical, neuroregulatory, and muscular influences upon normal and pathological motion.

**PTD 375 Information Retrieval and the Literature of the Health Sciences (1)**

This course provides students with the basic skills and knowledge needed to retrieve and utilize information from the literature of the health sciences and related fields. It provides an overview of how to conduct a literature review. Selected handbooks, directories, other traditional resources and web resources will be studied, but primary emphasis will be given to bibliographic database searching. Three aspects of database searching will be emphasized. The first emphasis is understanding the mechanics of searching with the focus on understanding Boolean operators and records structure. The second emphasis is learning to use a problem solving approach to search and developing a few basic strategies for modifying unsuccessful searches. A comparative study of the bibliographic databases relevant to physical therapy is the third emphasis.

**PTD 405 Clinical Exercise Physiology and Prescription (3)**

This course is designed to provide students with an overview of bioenergetics in addition to a study of acute and chronic physiologic adaptation to aerobic and anaerobic exercise. The impact various disease states have on exercise capacity will also be explored. In addition, the application of therapeutic exercise prescription and medical documentation will be emphasized as related to pathologic conditions commonly seen in physical therapy practice.

**PTD 431 Pharmacotherapeutics (2)**

Utilization of knowledge of physiology and neuroscience to develop an understanding of effects of medication on human performance throughout the lifespan within the context of various physical and mental dysfunctions. Designed to develop an understanding of substance abuse, drug interactions, drug compliance, age, and dosage recommendations.

**PTD 432 Professional Development Seminar III (1)**

This is the third of a six-course sequence threading every semester of the didactic curriculum. The Professional Development sequence is designed to provide a forum for introduction, development and mastery of essential skills needed to function as a physical therapy professional. This course continues the discussion of themes related to professional formation and development, reflection, evidence-based practice, professional responsibility, learning, and inter-professional health care. Activities of the Nebraska Physical Therapy Chapter, the APTA House of delegates, professional practice, and governing regulations of physical therapy are explored, in addition to policies related to clinical education. Students will also demonstrate a synthesis of knowledge acquired from all course work to date by assessment on a final comprehensive examination.

- PTD 433 Psychological and Sociocultural Aspects of Human Interaction (3)**  
General principles of human interaction, communication, and relationships including self, professional-patient and interdisciplinary; strategies for understanding adaptations to disease and disability; and development of cultural sensitivity and competence skills for practice.
- PTD 434 Professional Practice I (3)**  
Prior to the beginning of the course, students are assisted in developing specific outcome objectives for a three-week clinical learning experience. Students participate in a three-week professional practice experience in an assigned clinical site.
- PTD 435 Ethics in Physical Therapy Practice (3)**  
This course prepares physical therapy students to approach ethical dilemmas objectively with a thorough understanding of professional moral responsibility. This course assists students to: distinguish ethical from other kinds of issues in health care; identify the morally relevant features of a case; identify the options open to a therapist faced with a moral problem; provide justification for the best options; consider counter arguments for one's positions; and enhance commitment to promoting the dignity of others.
- PTD 437 Physical Therapy Interventions II (3)**  
A course developing fundamental physical therapy skills, including examination and patient handling skills, introductory soft tissue mobilization, manual therapy and Proprioceptive Neuromuscular Facilitation techniques, and therapeutic exercise.
- PTD 438 Physical Therapy Interventions III (3)**  
Continuation of PTD 437; PTD 438 is a course developing fundamental physical therapy skills, including examination and patient handling skills, and application of physical agents in a clinical science examination/intervention framework.
- PTD 439 Physical Therapy Interventions IV (2)**  
The course includes two topical sections. One section focuses on the examination, evaluation, and interventions for patients with upper and lower extremity amputations. The other section focuses on clinical electrophysiologic examination and evaluation of patients.
- PTD 442 Professional Development Seminar IV (1)**  
This course is a continuation of PTD 312, 314 and 432. This course will explore the professional role of physical therapists and how it relates to a changing health care environment. The broader scope of physical therapy in relation to local and national communities, other health care professionals and the political arena will also be discussed. In addition, the course will focus on clinical learning, development of self-responsibility, self-assessment and understanding of professional competence.
- PTD 443 Health Care Systems (2)**  
A study of the organization of health care delivery and health care policy as it affects the practice of Physical Therapy. Principles of access, cost and quality of health services are introduced as they affect patient, payer and provider. The course includes the examination of government and regulatory systems; insurance; economic; political and cultural forces; professional and social values which influence the development of health care policy and contemporary practice.
- PTD 444 Professional Practice II (3)**  
This course focuses on clinical learning and assisting students in developing self-responsibility, self-assessment, and an understanding of professional competence. The course is comprised of a three week clinical education experience.
- PTD 445 Health and Human Behavior: Educational Strategies for Health Professionals (2)**  
Examination of individual and social factors that influence health and wellness throughout the lifespan, including application of behavioral theories. Coverage of key concepts in teaching and learning essential to patient and family education. Introduction to health promotion/education interventions-based social, cultural, and economic influences; introduction to epidemiological assessment and program evaluation.

**PTD 447 Musculoskeletal Physical Therapy I (3)**

Musculoskeletal Physical Therapy I incorporates the study of physical therapy and the medical management of neuromusculoskeletal disorders. Examination and intervention of the lower extremity from the orthopaedic perspective will be emphasized.

**PTD 448 Neuromuscular Physical Therapy I (4)**

This course serves as an introduction to the Physical Therapy examination, evaluation, planning, and intervention for the adult and child with acquired or congenital nervous system dysfunction and their social unit. Emphasis will be placed on the examination and evaluation components of patient management. A clinical decision making model is presented with an emphasis on understanding normal function and the components of a thorough examination/evaluation within a context of individual growth, development and change across the lifespan. Discussion, integration of case studies, evidence-based practice, and practice of psychomotor skills will be used to facilitate learning. This course is foundational for PTD 558 emphasizing Physical Therapy management and interventions for specific congenital and acquired pathologies, impairments, and functional limitations.

**PTD 449 Cardiovascular, Pulmonary and Integumentary Physical Therapy I (3)**

This course is part one of a two-part sequence designed to prepare the student in the physical therapy management of patients/clients with diagnosis involving the cardiovascular, pulmonary and integumentary systems. Physical therapy examination, evaluation, prognosis, diagnosis, intervention, and outcome assessment across the lifespan will be emphasized across the continuum of care. Student learning experiences will include lecture, small group discussions, projects and case study preparation, laboratory practice and clinical observations.

**PTD 450 Introduction to Differential Diagnosis/Physical Assessment (2)**

An introduction into differential diagnosis/physical assessment as it applies to physical therapy will focus on the diagnostic process and the physical examination process in evaluation of musculoskeletal, cardiopulmonary, GI/GU/renal and psychological systems. Readings will be applied to case discussions. Laboratory experiences will provide practical, hands-on application of assessment skills in health examination of well adults. **P: Enrolled full-time as a third year student in the professional program with satisfactory completion of all course work to date.**

**PTD 499 Directed Independent Study (Variable credit hours)**

Independent study time during which students engage in a self-designed learning experience under the direction and guidance of a designated faculty member. This experience may occur in any area of physical therapy.

**PTD 552 Professional Development Seminar V (1)**

This is the fifth of a six-course sequence threading every semester of the didactic curriculum. This course continues the discussion of themes related to professional formation and development, reflection, evidence-based practice, professional responsibility, learning, and inter-professional health care. Topics related to the current health care environment will be discussed including evidence-based practice, professionalism, and global perspectives in physical therapy. In addition, students will broaden their experience-base learning through personal engagement with a variety of local communities, and by exploring opportunities for service within the profession. Students will also demonstrate a synthesis of knowledge acquired from all course work to date by assessment on a final comprehensive examination.

**PTD 553 Physical Therapy Management Systems (2)**

An introduction to management theory and practice in physical therapy including human resources, organizational change, leadership and team building, strategic planning, financial management, quality management, legal and regulatory issues, facility planning and marketing. Management decision making regarding investment, financing and operating is emphasized within the context of a business system. The field of case management is introduced.

**PTD 554 Professional Practice III (4)**

A continuation of the Professional Practice course sequence. This course focuses on clinical learning and assisting students in developing self-responsibility, self-assessment, and an understanding of professional competence. The course is comprised of a four-week professional practice experience. This course is graded Satisfactory/Unsatisfactory.

**PTD 556 Critical Inquiry I (1)**

This course develops students' inquiry skills as consumers of the literature with the ability to read and critique, as well as to identify researchable problems and questions. Students will begin to formulate ideas for the scholarly project. An evidence-based decision making process will be introduced, with emphasis placed on review of the literature and overview of research designs in preparation for PTD 566. Principles and application of inquiry and investigation are explored and related to the clinical environment. A conceptual overview of research design is discussed and used in the analysis of the literature. Applications for use in clinical practice are emphasized.

**PTD 557 Musculoskeletal Physical Therapy II (4)**

A continuation of PTD 447, Musculoskeletal Physical Therapy II incorporates the study of physical therapy and medical management of neuromusculoskeletal disorders. Examination and intervention of the upper extremity and axial region (spine, pelvis and temporomandibular joint) from the orthopaedic perspective will be emphasized.

**PTD 558 Neuromuscular Physical Therapy II (4)**

Continuation of PTD 448. Application of the psychomotor skills/ problem solving abilities introduced in PTD 448 is emphasized for various acquired and congenital neurologic disorders. Pathology, related co-morbidities, impairments, functional limitations and disabilities for these disorders are presented and discussed. Physical therapy management for an episode of care is emphasized.

**PTD 559 Cardiovascular and Pulmonary Physical Therapy II (2)**

This course is a continuation of PTD 449 designed to provide the student with foundational and clinical knowledge of the cardiovascular and pulmonary systems with respect to physical therapy practice. Physical therapy examination, evaluation, prognosis, diagnosis, intervention, and patient management as it relates to the cardiac system across the lifespan will be emphasized.

**PTD 562 Professional Development Seminar VI (1)**

This is the sixth of a six-course sequence threading every semester of the didactic curriculum. This course continues the discussion of themes related to professional formation and development, critical self-reflection, evidence-based practice, professional responsibility, learning, and inter-professional health care. Topics related to the current health care environment will be discussed including evidence-based practice, interdisciplinary health care, professionalism, and clinical learning. Students will also demonstrate a comprehensive synthesis of knowledge by assessment on the Practice Examination Assessment Tool (PEAT) and will use their results to develop a study strategy for the NPTE.

**PTD 564 Directed Study (2)**

Individually designed independent study time during which students work on a "scholarly project," under the direction and guidance of a designated faculty member.

**PTD 566 Critical Inquiry II (2)**

Continuation of PTD 556: Consistent with recommendations in the Normative Model for Physical Therapy Education Programs, and characteristics of the "scholarly clinician," this course continues to build on concepts introduced in Critical Inquiry I. Students' inquiry skills are further developed, including the ability to access and appraise research literature in search of the best available evidence to answer questions and problems encountered in clinical practice. Principles and application of inquiry and investigation are explored and related to the clinical environment. Research design and statistical methods are discussed and used in the analysis of the literature. An evidence-based decision making process will be modeled, emphasizing applications for use in clinical practice. Students will implement scholarly project activities by developing the Introduction and Method sections of the manuscript, including critical literature review, methodology, measurement and data analysis plan.

**PTD 680 Professional Practice IV (12)**

This course is a 20-week professional practice experience that requires the student to integrate the knowledge and skills from all previous academic and clinical coursework.

**PTD 688 Expert Practice in Physical Therapy (2)**

This is the capstone course for students returning from their extended clinical affiliations. Students are encouraged to reflect upon their professional development to date and recognize the opportunities and professional duties for moving from novice to expert practitioner in the future. Certification as a clinical specialist, graduate school, utilization of the scientific literature, reflection on practice, professional writing and public presentation skills are explored. Life-long learning and the responsibilities/opportunities of assuming the role of program alumnus related to professional development and the Creighton University mission are emphasized.

**PTD 690 Professional Practice V (16)**

This course is a 16-week professional practice experience that requires the student to integrate the knowledge and skills from all previous academic and clinical coursework.

*Transitional Distance Doctor of Physical Therapy (NPT)*

**NPT 501 Professional Assessment (2)**

Self-assessment and evaluation of professional and career goals, as well as clinical competence across the systems areas (musculoskeletal, neurologic, cardiopulmonary, and integumentary) using a portfolio model. The portfolios are meant to be dynamic, changing over time and representing performance-based assessment using a variety of evidence.

**NPT 511 Regional Clinical Anatomy (3)**

An in-depth analysis of the structure and function of a body region (selected by the student and the instructor). Prior to dissecting this region the student will research a clinical question related to the selected body region and develop individual learning goals and objectives. Results of the research and dissection will be shared through formal presentation at the end of the course.

**NPT 515 Cell Biology for Physical Therapy (3)**

The study of the cells and tissues of the human body with the objectives of understanding the relationship of cell structure to function and the dynamic nature of cells and tissues and relevant research. Those tissues most relevant to the practice of physical therapists are covered. There will be an introduction to the inflammatory and healing processes and the repair and regeneration of muscle, nervous and connective tissues.

**NPT 520 Motor Control and Motor Learning (3)**

Study of the neuroscience research underlying the clinical practice related to assisting a client regain motor control. The scientific foundation of the theories of motor control and motor learning will be used to discuss a systems theory of motor control and task-oriented approach to examination and intervention of postural control, and upper and lower extremity mobility disorders.

**NPT 526 Physical Assessment (3)**

This course focuses on the physical examination process in evaluation of the musculoskeletal, neuromuscular, cardiopulmonary, integumentary, GI/GU/renal and cognitive/behavioral systems. An on-site laboratory experience will provide practical, hands-on application of assessment skills in health examination of well adults.

**NPT 529 Advanced Biomechanics (3)**

Critical examination of the current literature related to normal and pathological musculoskeletal biomechanics including kinematic and kinetic analysis. Emphasis is placed on utilizing information found in the contemporary biomechanics literature to critically analyze and scientifically select: evaluation/assessment protocols, functional measurements, diagnosis, prognosis, clinical interventions, and outcomes measures for motion dysfunction.

- NPT 531 Pharmacotherapeutics (3)**  
Designed to develop an understanding of basic concepts in drug pharmacology and how to apply those concepts to the practice of physical therapy. Emphasis is placed on the mechanism of action of drugs, pharmacokinetics, side effects and therapeutic use. Specific patient characteristics that impact drug action will also be stressed. The overall goal is to develop a knowledge base that will allow the physical therapist to better adjust treatment care plans for their medicated patients.
- NPT 540 Ethical and Legal Issues in Physical Therapy Practice (3)**  
Ethical and legal analysis applied to clinical and administrative decision making in contemporary practice environments. Theoretical frameworks, concepts, and case analysis will be used to address current challenges in practice.
- NPT 543 Health Care Systems (3)**  
Study of the delivery of health care and its influence on physical therapy practice. Includes introduction to organizations and organizational structure, examination of governmental issues, and review of current literature as it relates to each topic.
- NPT 545 Health Education/Promotion in PT Practice (3)**  
Examination of individual and social factors that influence health and wellness throughout the lifespan including application of behavioral theories, introduction to health promotion/education and interventions based on social, cultural, and economic influences. Focus on the role of physical therapist in health promotion/prevention activities with individuals as well as communities. Students will design, implement, and evaluate a health promotion/education module.
- NPT 555 Radiology (3)**  
Includes basic principles and interpretation of diagnostic imaging modalities as they apply to the physical therapist. Emphasis on plain film radiography, including basic physics of the imaging technique, viewing and interpreting radiographs, radiographic anatomy and clinical correlation with patient cases. Other types of imaging, including contrast films, magnetic resonance imaging, and computed tomography will also be introduced.
- NPT 556 Evidence-based Practice and Decision Making (3)**  
Review of basic concepts of the clinical research process and critical analysis of the literature. Exploration of knowledge and theory development with application to practice. Examination of the clinical reasoning and decision making models and process as relates to evidence-based practice and assessment of patient outcomes.
- NPT 560 Professional Practice (3)**  
In-depth experience in 1) clinical practice focused on proficiency and management of patients in a specialized field of physical therapy, 2) didactic or clinical pedagogy, 3) research, 4) administration and/or health care management, or 5) the investigation of a policy-related or ethical/legal issue. Partnership with a faculty and/or clinical mentor is encouraged. Competencies are generated through self-assessment in NPT 501.
- NPT 590 Differential Diagnosis (3)**  
This course focuses on diagnostic process and clinical reasoning skills used in patient/client management. Therapists will apply clinical reasoning to patient cases from their own clinical experiences. Emphasis will be placed on the differential diagnostic process in physical therapy and indications for referral.