

# University of Evansville Doctor of Physical Therapy Program

## Year 1 Summer

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### **PT-441 Clinical & Professional Issues I: Introduction**

First in series of clinical and professional issues courses. Provides introduction to professional practice expectations of physical therapy. Provides orientation and strategies for success in the professional program. Introduction to American Physical Therapy Association. Students explore the practice of physical therapy utilizing the Guide to Physical Therapist Practice and the core values of the profession. Introduction to professional ethics and communication required in professional relationships.

### **PT-435 Foundations in Biomechanics**

Covers principles of physics, mechanics, trigonometry, geometry, physiology, anatomy and other related sciences applied to analysis of human motion.

### **PT-431 Gross Anatomy**

For students in the physical therapy program. Emphasis on gross anatomy of the human skeleton, muscular, vascular, and nervous systems. Knowledge of gross anatomy provides students with a sound foundation upon which other courses in the physical therapy curriculum can directly or indirectly be related. Content presented in a regional approach, and includes anatomical concepts such as proper terminology, surface anatomy, and joint function. Gross anatomy is best learned in the laboratory through dissection of the human body. Course is primarily a laboratory experience.

## Year 1 Fall

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### **BIOL-436 Human Physiology**

A detailed study of human function, beginning at a cellular level. Emphasis is placed on the neuromuscular, cardiovascular, pulmonary, renal, and endocrine systems. The effects of exercise and pathology are integrated into each system.

### **PT-410 Foundations of PT**

This course introduces the foundational proficiencies necessary for practice in the profession of physical therapy. Topics include body mechanics, elements of documentation (initial encounter, daily note, re-examination, discharge summary), effects of inactivity, foundations of therapeutic exercise, infection control, mobility training, patient/client equipment, patient/client stress, positioning and turning, posture preparation for patient/client care, proprioceptive neuromuscular facilitation trunk and extremity patterns, range of motion exercise, stretching exercise, transfer training, vital signs, wheelchairs, and wound management. Principles from the Guide to Physical Therapist Practice are incorporated into the course and written documentation, as suggested by the guide, is utilized for specific lab activities. Students participate in initial field experiences in an acute care, inpatient rehabilitation, and pediatric facility.

### **PT-412 Physical Interventions**

This lecture/lab course provides the student with an introduction to the therapeutic modality skills necessary for practice in the profession of physical therapy. Includes electrical stimulation, hydrotherapy, massage, thermal modalities, traction, and ultrasound. Principles from the Guide to Physical Therapist Practice are incorporated into these skills and written documentation, as suggested by the guide, is utilized for specific lab activities.

**PT-414 Foundations in Therapeutic Exercise**

This course provides the student with an introduction to commonly performed therapeutic exercise interventions. An emphasis will be placed on understanding therapeutic exercise from a motor control perspective and how pain affects motor control and exercise. Through lecture and laboratory experiences common exercise progressions as they relate to high volume conditions encountered in outpatient physical therapy practice will be covered. Students will learn therapeutic exercise techniques, which will be utilized in future patient management courses emphasizing the current best evidence.

**PT-432 Kinesiology**

Introduces elements and principles basic to the study of human movement. Includes principles of basic biomechanics as well as biomechanical behavior of biological tissues. Discusses concepts of kinetics, kinematics, length-tension relationships, and the functional significance of the structure of biological tissues. Emphasizes clinical application of mechanical concepts.

**PT-434 Medical Pathology**

Explores consequences of disruption in normal physiological and developmental processes. Common diseases and disorders involving all major body systems addressed, as well as selected systemic diseases. Topics include diseases of infectious, immune system, traumatic, degenerative, and congenital origin. Focuses on pathogenesis, clinical presentation, laboratory findings, prognosis, medical intervention including pharmacological agents, and implications related to physical therapy practice.

**PT-442 Clinic and Professional Issues II: Cultural Competence**

Second in series of four clinical and professional issues courses. Focuses on physical therapist's role as an educator and developing one's own cultural competence. Provides introduction to federal programs, including Medicare and Medicaid.

**PT-451 Scientific Inquiry I: Intro to Statistics and Research Methods**

This is the first in a series of courses designed to prepare the physical therapist for practice in an evidence-based environment. Topics to be addressed in the series include research design and analysis, research ethics, and critical appraisal of published research in the areas of diagnosis, prognosis, intervention, and harm.

## Year 1 Spring

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**PT-417 Tests and Measures**

Introduces basic procedures for objective assessment of the musculoskeletal system through measurement of joint range of motion (ROM) and muscle strength. Laboratory sessions allow practice in the techniques of goniometry and manual muscle testing (MMT). Inclometers and hand-held dynamometers introduced. Opportunity to learn about isokinetic testing at local outpatient clinics.

**PT-421 Patient Management I: Musculoskeletal**

Initiates patient management sequence. Expands upon the anatomical, kinesiological, and therapeutic exercise principles presented in previous courses. Emphasis on examination and assessment of the musculoskeletal system. Common conditions and impairments are presented and reinforced through use of case examples. Appropriate interventions are addressed conceptually and performed in the laboratory. Addresses concepts and techniques related to proprioceptive neuromuscular facilitation. Medical documentation integrated into laboratory activities and assignments. Experiential opportunities included.

**PT-422 Patient Management II: Cardiovascular and Pulmonary**

Applies principles of rehabilitation science to patients with disorders of the cardiovascular or pulmonary systems. Topics include pathophysiology, patient assessment, medical and surgical management of disease, and safety aspects. The course emphasizes the design, implementation, and administration of a team-based approach to cardiovascular and pulmonary rehabilitation and disease prevention.

**PT-452 Scientific Inquiry II: Principles of Critical Appraisal**

This is the second in a series of courses designed to prepare the physical therapist for practice in an evidence-based environment. Topics to be addressed in the series include research design and analysis, research ethics, and critical appraisal of published research in the areas of diagnosis, prognosis, intervention, and harm.

**PT-423 Wellness-experiential**

Addresses issues related to wellness, health promotion, health maintenance, and fitness and how these concepts can be incorporated into physical therapy practice. Areas of learning include primary health theory; needs; epidemiological factors; principles of exercise and physical fitness; effects of the environment, fitness, and nutrition on wellness; principles of motivation and behavior modification in health promotion; assessment techniques; development of a personal wellness profile; and identification of a specialized wellness program.

## Year 2 Summer

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**PT-561 Clinical I**

Active participation in this fulltime clinical course emphasizes development of professional behavior, written and verbal communication skills, and evaluation, examination, and interventions previously addressed in didactic course work. Emphasizes physical therapy management of musculoskeletal conditions. (320 clinic hours)

## Year 2 Fall

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**PT-523 Patient Management III: Multiple Systems**

Studies physical therapy management of patients with amputations, integumentary and oncologic disorders, as well as acute and chronic disorders seen in the older adult. Student expected to discuss the medical, surgical, and pharmacological management of these conditions. Emphasis on problem solving with material presented in module format. Laboratory activities include balance assessment, wound assessment and management, lymphedema interventions including bandaging, geriatric screening, functional assessments, and exercise for the elderly. Concepts associated with limb amputations and prosthetic devices addressed in laboratory setting. Students participate in an observational experience in a prosthetic clinic, as well as at a health care facility specializing in wound care.

**PT-531 Neurobiology**

Lecture-lab. Normal development of the brain and spinal cord and the gross anatomy of these structures examined. Laboratory provides opportunity to study human specimens and models to gain a three-dimensional understanding of the central nervous system during first part of course. Subsequently, pathways and associated structures that mediate general sensory, special sensory, autonomic, and somatic motor functions are described and the consequences of lesions of these pathways discussed.

**PT-533 Human Growth and Development**

Presents typical human development from conception to death including functional changes in posture and movement. Presents processes of growth, maturation, adaptation, motor control, and motor learning. Discusses concepts of critical period, health risk, physiologic reserve, and senescence. The relationship of physical, cognitive, and social theories of human development and age-related system changes are given. Views motor behavior across life span within a social and psychological context.

**PT-541 Clinical and Professional Issues III: Ethics**

Continuation of clinical and professional issues course sequence which encourages value clarification and ethical decision making and its relationship to health care. Various situations, dilemmas, and individuals utilized to represent topics discussed. Topics intended to develop and heighten awareness of dilemmas faced by health care providers and their patients.

**PT-551 Scientific Inquiry III: Intermediate Statistics and Research Methods**

This course is the third in a series of five courses designed to prepare the graduate to practice in an evidence-based manner and to be an astute consumer and judge of scientific research. Topics include inferential statistics, probability and probability distributions, and various bivariate parametric and non-parametric statistical tests.

## Year 2 Spring

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**PT-524 Patient Management IV: Pediatrics**

Studies developmental disabilities that impact infants and children's posture and movement across the life span. Presents examination and evaluation of infants and children with specific congenital and acquired disorders. Physical therapy management including handling and positioning, developmental activities, use of adaptive equipment, and orthoses presented in lecture and lab format. Actual patient and video demonstrations used when possible for reinforcement along with experiential learning, case studies, and treatment planning activities.

**PT-526 Patient Management V: Neuromuscular**

Studies physical therapy management of the patient with neurologic dysfunction, including stroke, traumatic brain injury, spinal cord injury, and multiple progressive conditions. Pathology, etiology, and natural history of these disorders are presented in tandem with their medical, surgical, and pharmacological management. Students are expected to be able to examine and evaluate patients with neurological dysfunction by selecting appropriate tests and measures, developing efficacious plans of care, implementing therapeutic interventions, and documenting results using the Guide format. Students are also expected to provide a rationale for all decisions made as part of this patient management process. Experiential opportunities, clinical simulations, role playing, small group learning activities, and video demonstrations are used with problem-solving exercises to reinforce mastery of the material.

**PT-544 Behavioral Psychology**

Draws together theoretical constructs of psychology, neuropsychological, and behavioral medicine to help explain the etiology of expected behavioral and emotional responses to compromised motor function and neurologic impairment typically experienced by patients in physical therapy rehabilitation and to provide guidance in management of these patients.

**PT-542 Clinical and Professional Issues IV: Advocacy**

Designed to promote the importance of political and social advocacy. Content related to professional education, outcomes assessment, and consultation addressed. Students explore the profession's core value of social responsibility and provide evidence of their own involvement in the community and political arena.

**PT-543 Leadership & Administration**

Examines leadership and administration theories and practice that are specific to physical therapy and rehabilitation. Practical implementation of this information is emphasized with the students actively involved in the processes of strategic planning, marketing, supervising, budgeting, effective documentation, and balancing human and fiscal resources within health care environments. Additional leadership concepts of motivation, communication, group dynamics, managing change, and organizational development are explored in depth.

**PT-552 Scientific Inquiry IV: Integrated Statistics and Research Methods**

This is the fourth in a series of courses designed to prepare the physical therapist for practice in an evidence-based environment. Topics to be addressed in the series include research design and analysis, research ethics, and critical appraisal of published research in the areas of diagnosis, prognosis, intervention, and harm.

**Year 3 Summer**

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**PT-661 Clinical II**

Full-time clinical experience emphasizes examination, evaluation, and management of patients with neurologic, neuromuscular, cardiopulmonary, or integumentary disorders. Further development of professional interaction skills and written and verbal communication addressed. (320 clinic hours)

**Year 3 Fall**

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**PT-626 Patient Management VI: Integrated Musculoskeletal**

Builds on previously acquired examination and intervention skills related to musculoskeletal patient management. Emphasis on examination and subsequent evaluation leading to the physical therapy diagnosis for the adult and athletic population. Covers, in detail, evidence-based interventions emphasizing manual therapy and therapeutic exercise in lecture and laboratory sessions. Includes examination and intervention models utilized in contemporary clinical practice such as functional movement training, and McKenzie. Specific techniques include muscle energy, neural mobilization, trigger points, joint mobilization/manipulation, and segmental stabilization for the spine. Therapeutic exercise and sport-specific progressions addressed in relation to commonly encountered physical impairments. Master clinicians and physicians share expertise through classroom and laboratory presentations related to each topic covered. Students learn to utilize these concepts and techniques to develop comprehensive patient management programs. Students may participate in an athletic event coverage observational experience.

**PT-627 Community Health**

Expands the students' knowledge and experiences in the areas of health promotion, wellness, and autonomous care. Assists the student in analyzing and identifying community health needs. Areas of learning include physical therapist's role in community wellness programs, continued participation in the legislative and political processes as advocates for health and wellness needs of their communities. Additionally, students examine health-related issues for individuals of varying races and ethnicities, national origin, and sexual orientation. Students develop and implement a community-based health promotion, prevention, or wellness program for a specific segment of the population based on a needs assessment.

**PT–628 Advanced Screening and Differential Diagnosis**

Enables students to function as independent health care providers with the ability to identify signs and symptoms that fall outside the scope of physical therapy practice and to refer clients appropriately to additional medical care. Addresses strategies to identify source of various signs and symptoms. Tools used in course include questionnaires based on presenting symptoms. Questionnaires to be used as a guide in history-taking and inter-practitioner communication.

**PT–631 Rehabilitation Pharmacology**

Presents basic aspects of the mechanism of action of drugs commonly employed in the practice of rehabilitation. Fundamental principles of drug action are followed by an in-depth discussion of specific drugs used. Topics include pharmacokinetics, pharmacodynamics, pharmacoeconomics, drug interactions, polypharmacy, and adverse drug reactions.

**PT–632 Medical Imaging**

Covers basic principles of diagnostic imaging pertinent to clinical practice. Familiarizes student with magnetic resonance imaging, computed tomography, ultrasonography, and plain film studies of the spine and extremities. Students view and interpret normal and abnormal images for these modalities. Student examines research related to diagnostic imaging with regard to sensitivity, specificity, and correlation with clinical findings.

**PT–642 Clinical and Professional Issues V: Transition to Practice**

This course is the culmination of the series of clinical and professional issues courses. The course is focused on the processes involved in the transition from student to new professional. Content includes career planning topics such as interviewing, résumé building, and professional licensure as well as opportunities and responsibilities of the new professional. The importance of becoming a high-performance, well-balanced professional will be emphasized.

**Year 3 Spring**

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**PT–651 Scientific Inquiry V: Synthesis and Application of Current Evidence in Practice**

This is the fifth in a series of courses designed to prepare the physical therapist for practice in an evidence-based environment. Topics to be addressed in the series include research design and analysis, research ethics, and critical appraisal of published research in the areas of diagnosis, prognosis, intervention, and harm.

**PT–662 Clinical III**

Full-time clinical experience assists student in achieving clinical competence as an entry-level physical therapist. Student examines and evaluates patients, and designs, implements, and analyzes a physical therapy plan of care. Includes documentation of test results and patient progress. Can occur in an outpatient, acute care, or rehabilitation setting. Student can manage musculoskeletal, neuromuscular, neurologic, and geriatric pathologies, as well as developmental disabilities and cardiopulmonary dysfunction. (280 clinic hours)

**PT–663 Clinical IV**

Full-time clinical experience completes achievement of clinical competence as an entry-level physical therapist. Student examines and evaluates patients, and designs, implements, and analyzes a physical therapy plan of care as an entry-level practitioner. Professional communication and socialization further developed. Clinical experience can occur in an outpatient, acute care, rehabilitation, or specialized setting. (280 clinic hours)